A STUDY TO ASSESS THE EFFECTIVENESS OF NURSING INTERVENTIONS AMONG CLIENTS WITH LOW BACK PAIN IN MAPIMS AT MELMARUVATHUR

By

Mr. ASIF MUSHTABA. S

A Dissertation submitted to

THE TAMILNADU Dr.M.G.R MEDICAL UNIVERSITY,

CHENNAI.

IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE

DEGREE OF MASTER OF SCIENCE IN NURSING

OCTOBER - 2015

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CERTIFICATE

This is to certify that **"A STUDY TO ASSESS THE EFFECTIVENESS OF NURSING INTERVENTIONS AMONG CLIENTS WITH LOW BACK PAIN IN MAPIMS AT MELMARUVATHUR"** is a bonafide work done by **Mr. ASIF MUSHTABA. S, M.Sc.(N) II Year Student,** Adhiparasakthi College of Nursing, Melmaruvathur, in partial fulfillment of **THE TAMIL NADU Dr M.G.R MEDICAL UNIVERSITY, CHENNAI** towards the award of the degree of **Master of Science in Nursing,** under my guidance and supervision during the academic year 2013-2015.

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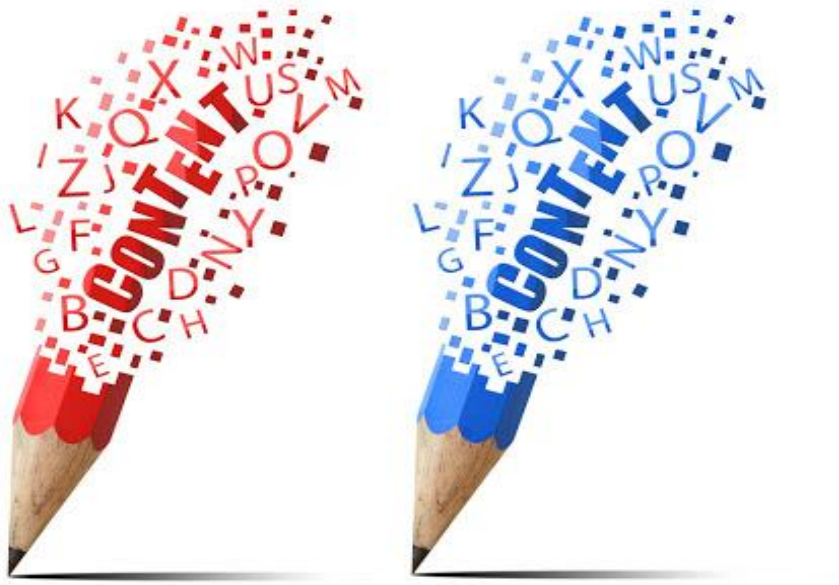

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CHAPTER I

INTRODUCTION

Low back pain or lumbago is a common musculoskeletal disorder affecting 80percent of people at some point in their lives. It is an extremely common human phenomenon which occurs because of trauma, degeneration or any pathology related to back. It can be either acute, sub acute or chronic in duration.

The lumbar region or lower back region is made up of five vertebrae L_1-L_5. In between these vertebrae lie fibrocartilage discs or intervertebral discs, which act as cushions, nerves runs from the spinal cord through foramina within the vertebrae, providing muscles with sensations and motor associated messages. Stability of the spine is provided through ligaments and muscles of the back, lower back and abdomen. Small joints those prevent as well as direct motion of the spine are called facet joints or zygapophysial joints.

Low back pain usually occurs as either in cervical or lumbosacral region. Low back pain results from herniation of the nucleus pulpous in the intervertebral disc. It also occurs due to degeneration of the vertebra, or disc injury from hyperreflexia, herniation or injury results spinal root compression, which leads to subsequent motor and sensory manifestations.

Low back pain is often difficult to diagnose. This leads to questioning the pain in clients with low back pain.

The lifetime prevalence of mechanical low back pain in the United States is 60-80 percent. The prevalence of serious mechanical low back pain (persisting less than 2 weeks) is 14 percent. Eight of 10 people will experience low back pain at some point in their lives, according to the National Institutes of Health.

Men and women are equally affected by low back pain, which can range in intensity from a dull, constant ache to a sudden, sharp sensation that leaves the person incapacitated. Pain can begin abruptly as a result of an accident or by lifting something heavy, or it can develop over time due to age-related changes of the spine. Sedentary lifestyles also can set the stage for low back pain, especially when a weekday routine of getting too little exercise is punctuated by strenuous weekend workout.

Studies show that low back pain accounts for more sick leave & disability than any other medical condition. It accounts for more discomfort, lost work and productivity and also frustration. Low back pain can be caused by number of reasons that is due to excessive standing or sitting, exercises, lifting heavy objects, bad posture, etc.

CLASSIFICATION OF LOW BACK PAIN

The low back pain is classified into acute low back pain, sub acute low back pain and chronic low back pain.

Acute low back pain: Most low back pain is acute or short term, and lasts a few days to a few weeks. It tends to resolve on its own with self-care and there is no residual loss of function. The majority of acute low back pain is mechanical in nature, meaning that there is a disruption in the way the components of the back that is, the spine, muscle, intervertebral discs, and nerves, fit together and move.

Sub acute low back pain is defined as pain that lasts between 4 and 12 weeks.

Chronic back pain is defined as pain that persists for 12 weeks or longer, even after an initial injury or underlying cause of acute low back pain has been treated. About 20 percent of people affected by acute low back pain develop chronic low back pain with persistent symptoms at one year. In some cases, treatment successfully relieves chronic low back pain, but in other cases pain persists despite medical and surgical treatment.

CAUSES OF LOW BACK PAIN:

The vast majority of low back pain is mechanical in nature. In many cases, low back pain is associated with spondylosis, a term that refers to the general degeneration of the spine associated with normal wear and tear that

occurs in the joints, discs, and bones of the spine as people get older. Some examples of mechanical causes of low back pain include:

- **Sprains and strains** account for most acute back pain. Sprains are caused by overstretching or tearing ligaments, and strains are tears in tendon or muscle. Both can occur from twisting or lifting something improperly, lifting something too heavy, or overstretching. Such movements may also trigger spasms in back muscles, which can also be painful.
- **Intervertebral disc degeneration** is one of the most common mechanical causes of low back pain, and it occurs when the usually rubbery discs lose integrity as a normal process of aging. In a healthy back, intervertebral discs provide height and allow bending, flexion, and torsion of the lower back. As the discs deteriorate, they lose their cushioning ability.
- **Herniated or ruptured disc** can occur when the intervertebral discs become compressed and bulge outward or herniation or rupture, causing low back pain.
- **Radiculopathy** is a condition caused by compression, inflammation and/or injury to a spinal nerve root. Pressure on the nerve root results in pain, numbness, or a tingling sensation that travels or radiates to

other areas of the body that are served by that nerve. Radiculopathy may occur when spinal stenosis or a herniated or ruptured disc compresses the nerve root.

- **Sciatica** is a form of radiculopathy caused by compression of the sciatic nerve, the large nerve that travels through the buttocks and extends down the back of the leg. This compression causes shock-like or burning low back pain combined with pain through the buttocks and down one leg, occasionally reaching the foot. In the most extreme cases, when the nerve is pinched between the disc and the adjacent bone, the symptoms may involve not only pain, but numbness and muscle weakness in the leg because of interrupted nerve signaling.

The condition may also be caused by a tumor or cyst that presses on the sciatic nerve or its roots.

- **Spondylolisthesis** is a condition in which a vertebra of the lower spine slips out of place, pinching the nerves exiting the spinal column.
- **A traumatic injury**, such as from playing sports, car accidents, or a fall can injure tendons, ligaments or muscle resulting in low back pain. Traumatic injury may also cause the spine to become overly compressed, which in turn can cause an intervertebral disc to rupture

or herniate, exerting pressure on any of the nerves rooted to the spinal cord. When spinal nerves become compressed and irritated, back pain and sciatica may result.

- **Spinal stenosis** is a narrowing of the spinal column that puts pressure on the spinal cord and nerves that can cause pain or numbness with walking and over time leads to leg weakness and sensory loss.
- **Skeletal irregularities** include scoliosis, a curvature of the spine that does not usually cause pain until middle age; lordosis, an abnormally accentuated arch in the lower back; and other congenital anomalies of the spine.

Low back pain is rarely related to serious underlying conditions, but when these conditions do occur, they require immediate medical attention. Serious underlying conditions include:

- **Infections** are not a common cause of back pain. However, infections can cause pain when they involve the vertebrae, a condition called osteomyelitis; the intervertebral discs, called discitis; or the sacroiliac joints connecting the lower spine to the pelvis, called sacroiliitis.

- **Tumors** are a relatively rare cause of back pain. Occasionally, tumors begin in the back, but more often they appear in the back as a result of cancer that has spread from elsewhere in the body.
- **Cauda equina syndrome** is a serious but rare complication of a ruptured disc. It occurs when disc material is pushed into the spinal canal and compresses the bundle of lumbar and sacral nerve roots, causing loss of bladder and bowel control. Permanent neurological damage may result if this syndrome is left untreated.
- **Abdominal aortic aneurysms** occur when the large blood vessel that supplies blood to the abdomen, pelvis, and legs becomes abnormally enlarged. Back pain can be a sign that the aneurysm is becoming larger and that the risk of rupture should be assessed.
- **Kidney stones** can cause sharp pain in the lower back, usually on one side.

Other underlying conditions that predispose people to low back pain include:

- **Inflammatory diseases of the joints** such as arthritis, including osteoarthritis and rheumatoid arthritis as well as spondylitis, an inflammation of the vertebrae, can also cause low back pain. Spondylitis is also called spondyloarthritis or spondyloarthropathy.

- **Osteoporosis** is a metabolic bone disease marked by a progressive decrease in bone density and strength, which can lead to painful fractures of the vertebrae.
- **Endometriosis** is the buildup of uterine tissue in places outside the uterus.
- **Fibromyalgia**, a chronic pain syndrome involving widespread muscle pain and fatigue.

RISK FACTORS OF LOW BACK PAIN:

Beyond underlying diseases, certain other risk factors may elevate one's risk for low back pain, including:

- **Age**: The first attack of low back pain typically occurs between the ages of 30 and 50, and back pain becomes more common with advancing age. As people grow older, loss of bone strength from osteoporosis can lead to fractures, and at the same time, muscle elasticity and tone decrease. The intervertebral discs begin to lose fluid and flexibility with age, which decreases their ability to cushion the vertebrae. The risk of spinal stenosis also increases with age.
- **Fitness level**: Back pain is more common among people who are not physically fit. Weak back and abdominal muscles may not properly

support the spine. “Weekend warriors”—people who go out and exercise a lot after being inactive all week—are more likely to suffer painful back injuries than people who make moderate physical activity a daily habit. Studies show that low-impact aerobic exercise is beneficial for the maintaining the integrity of intervertebral discs.

- **Pregnancy** is commonly accompanied by low back pain, which results from pelvic changes and alterations in weight loading. Back pain symptoms almost always resolve postpartum.
- **Weight gain**: Being overweight, obese, or quickly gaining significant amounts of weight can put stress on the back and lead to low back pain.
- **Genetics**: Some causes of back pain, such as ankylosing spondylitis, a form of arthritis that involves fusion of the spinal joints leading to some immobility of the spine, have a genetic component.
- **Occupational risk factors**: Having a job that requires heavy lifting, pushing, or pulling, particularly when it involves twisting or vibrating the spine, can lead to injury and back pain. An inactive job or a desk job may also lead to or contribute to pain, especially if you have poor posture or sit all day in a chair with inadequate back support.

- **Mental health factors**: Pre-existing mental health issues such as anxiety and depression can influence how closely one focuses on their pain as well as their perception of its severity. Pain that becomes chronic also can contribute to the development of such psychological factors. Stress can affect the body in numerous ways, including causing muscle tension.

Even though analgesics, muscle relaxants, physiotherapy etc. contributes towards relieving low back pain long-term relief can only be obtained through holistic approach, nursing interventions like monitoring vital parameters, providing comfortable position, hot and cold application and health education regarding maintaining body mechanism, exercises, dietary management, self activities.

A nurse plays a vital role in this work, he or she is expected to carry out the instructions and aims to restore low back pain victim mentally and functionally. Nurses get the opportunity of taking the treatment to its logical conclusion by restoring the client to his pre - injury status. In an orthopedic client, apart from the routine treatment, a nurse has an extended role of being a guardian apart from a nurse. The nurse gets an opportunity to treat the client as a whole.

Nursing care is now provided to orthopedic clients in a large number of settings. These includes acute care, extended care, inpatient and outpatient care, sub acute care, nursing home, home care, ambulatory care, operating room and office facilities. In different practice areas, nursing care is carried out through different organizational structures. Orthopedic nursing practice as the nursing care of individuals with known and (or) predicted musculoskeletal alterations.

Clients of the orthopedic service are those who require treatment for low back pain, deformities and diseases of injuries of some part of the musculoskeletal system. Some patients will require surgery, immobilization, or both to correct their condition. The basic principles and concepts of care for the surgical patient will apply to orthopedic patients, the majority of patients not requiring surgical intervention will be managed by bed rest, immobilization and rehabilitation. Nurses in the role of teacher must understand the forces, both historical and present day, that has influence and continue to influence their responsibilities in practice.

NEED FOR THE STUDY:

Low back pain is an unpleasant sensory and emotional experience, which requires serious dimension and can be crippling. According to the World Health Organization, low back pain is indeed a major public health problem that is often neglected in both developed and developing countries. The reason for this neglect may be due to various factors including the cost of treatment, inaccurate perception of pain, poor pain assessment, lack of clinical knowledge of pharmacokinetics and lack of professional accountability. Pain and stiffness are the main features of low back pain and it may results in deformity and disability if proper care is not taken**.**

As the low back pain is chronic and progressive in nature, hot and cold application may be required periodically for weeks or even years depending upon the course of the disease and the individual patient. Therapy has a great influence on the knowledge of rehabilitation, which helps in reducing disability or deformity thus improving the quality of life.

Back pain particularly experienced by orthopaedic patient is one of the most common clinical stimulation encountered by health professionals especially by nurses. The nurse is most effective in providing comfort by

understanding the nature of pain and client's perception and working closely with the clients to find out the best relief measures.

Hot or cold applications may relieve pain through a counter- irritant effect as well as by direct effect on peripherals and free encoding. Hot applications promote muscle relaxation and decrease pain from spasm or stiffness where as cold application decreases nerve conduction velocity, induce numbness or loss of sensation.

Prior to applying hot and cold therapies, the nurse has to assess the physical condition for signs of potential intolerance to heat and cold. The nurse is legally responsible for safe administration of hot and cold application. Pain is subjective feeling and so it is extremely important for the nurse to assess, intervene and evaluate each clients discomfort on an individual basis.

National institutes of health statistics survey reported that most common cause of pain is low back pain. In the year 1993, a survey on global burden of low back pain, combined with occupational exposure, by the department of health commission, in Britain stated that, 37 percent of people are suffering from low back pain.

Researcher estimated that about 73-76 percent peoples are suffering from low back pain. Out of that 53 percent are depending intermittently on

analgesics, 10 percent take frequent hot fomentations, 20 percent take muscle relaxant back rubs, 10 percent take frequent sick leaves, 20 percent requesting assignment transfer, 2 percent leaving their profession.

A report says that, nearly 1 million people, in each year treat and recovered from low back pain or loss of function due to overexertion or repetitive motion either in the low back. Although there is a risk of long-term disability in this disorder, the majority of individuals return to work within 31 days. It is estimated workers' compensation costs associated with these lost workdays range from 13 to 20 billion annually.

A research conducted at **G. Sheps Centre for Health Services Research** at the University of North Carolina at Chapel Hill found that prevalence of chronic back pain in the state increased from 3.9 percent in1992 to 10.2 percent in 2006. Increase were seen in both men and women. About 80 percent of the worlds residents suffer from low back pain at one time or another and athletic life style offers no warranty against the problem. Prevalence of back pain is 6 million annually and prevalence rate of back pain as approximately 1 in 45 or 2.21 percent or 6 million people in United States. 1,993,000 women self reported having back pain or disc disorders.

A cross-sectional study was performed by University of Danish in population of individuals 12-41 years of age to study the lifetime cumulative

incidence, the 1-year period prevalence, and point prevalence of low back pain in the general population and to investigate whether there were any differences in the occurrence of low back pain that were related to age and gender, especially in young individuals. The researcher concluded reveal that, the prevalence of the various definitions of low back pain increased greatly in the early teen years and by the ages of 18 years in girls and 20 years in boys, more than 50 percent had experienced at least one low back pain episode. The pattern for the 1-year period prevalence of low back pain was very similar to that for the lifetime prevalence; both started at 7 percent for the 12-year-old individuals and reached 56 percent and 67 percent respectively, for the 41-year-old individuals.

A study conducted by Dr.Goode, University of Duke revealed that, 60 to 90 percent of all citizens will experience at least one back injury in their lives. Half of these people will experience multiple episodes of back problems. Many will undergo surgical procedures, and roughly 10 percent will see their condition become chronic. The ultimate cost to society in lost productivity and health-care resources totals in the billions of dollars. An even higher price, however, is paid by the people who have lost the ability to participate in the activities they most enjoy. Hence, the researcher felt the need to educate the urban employees about low back pain and it prevention

to avoid untoward complications. Despite this, entire people still take their backs for granted, not realizing the incorrect postures they put their backs in every day. Almost everything you do requires the use of your back, and back problems are rarely the result of a single activity or accident. Most injuries occur over a period of years or even decades, as a result of various factors - how you sleep or sit, what you eat, or how you deal with the emotional stresses at home and work place. The researcher concluded that low back pain is quite common with employees at the later age due to prolonged working hours, incorrect posture stress at work and it is necessary to educate preventive measures for employees so that they practice in their life time to avoid back pain.

BURDEN OF LOW BACK PAIN AT GLOBAL LEVEL:

One of the most common complaints of the patient seeking medical care is Low back pain, and it has been recognized by the World Health Organization as a problem of global importance. It has been estimated 1 in 5 adults suffer from pain and another 1 in 10 adults are diagnosed with low back pain each year. Low back pain is a universal phenomenon affecting all population irrespective of age, sex, race and geographical area. The magnitude of the burden from low back pain has grown worse in recent

years. In 1990, a study ranking the most burdensome conditions in the United States, in terms of mortality or poor health as a result of disease put low back pain in sixth place, in 2010, low back pain jumped to third place, with only ischemic heart disease and chronic obstructive pulmonary disease ranking higher.

Most people suffer incapacitating low back pain at some stages in their lives. It is estimated that, 6.5 million people in the United States are bed-ridden because of low back pain. Approximately 1.5 million new cases of low back pain are seen by physicians in each month. There has been growing concern about the low back disability in western society.Low back pain is a major health and socioeconomic problem in western countries.

A large study from the Netherlands reported an incidence of 28.0 episodes per 1000 persons per year and for low back pain with sciatica an incidence of 11.6 per 1000 persons per year. Low back pain affects men more than women and is most frequent in the working population, with the highest incidence seen in those aged 25–64 years. New episodes are twice as common in people with a history of low back pain. Lifetime prevalence is 58–84 percent and the point prevalence or proportions of population studied that are suffering back pain at a particular point of time was 4–33 percent. Back pain has a marked effect on the patient Fragility fractures have doubled

in the last decade as 40 percent of all women over 50 years will suffer an osteoporotic fracture with the number of hip fractures rising from about 1.7 million in 1990 to 6.3 million by 2050 unless aggressive preventive programs are started.

Back pain is extremely common in both industrial and developing countries, with upto 50 percent of workers suffering an episode each year. Back pain causes 0.8 million disability adjusted life years each year and is a major cause of absence from work and of correspondingly high economic losses. Low back pain has reached epidemic proportions, being reported by about 80 percent of the people at some time in their life.

Low back pain is also the most frequent cause of limitation of activity in the young and middle aged, one of commonest reasons for medical consultation, and the most frequent occupational injury. Back pain is the second leading cause of sick leave. The number of individuals over the age of 50 is expected to double between 1990 and 2020

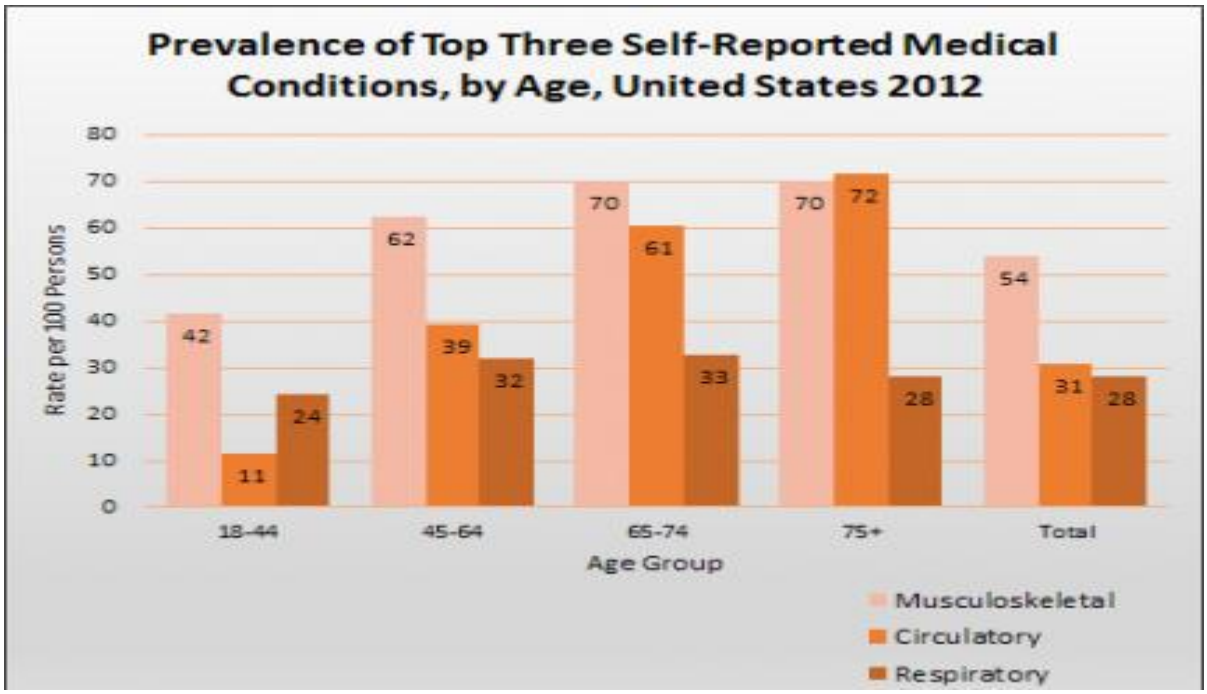

Figure 1.1 Percentage distribution of prevalence of top three self reported medical conditions

Sources: National Health Interview Survey - 2013

BURDEN OF LOW BACK PAIN AT NATIONAL LEVEL:

In India, occurrence of low back pain is also alarming; nearly 60 percent of the people in India have significant low back pain at some time or the other in their lifespan. Epidemiological studies provide important information regarding various risk factors such as sex, life style, occupation, habit, socio-economic status and smoking associated with the history of low back pain.

In the present scenario, India as developing country, is stepping forward in to an early industrial society. And urban workers have a major role to play on the emergence of India to achieve the status of a developed country. In the course of emerging India, the middle class has grown to be the work horse of our country. And transforming them adapted to life style of western civilization making them vulnerable to suffer from different diseases. Most of the diseases go undiagnosed, either due to less knowledge regarding the disease or no time for regular medical checkup due to increased job strain.

Low back pain prevalence has been found to range from 6.2 percent to 92 percent with increase of prevalence with age and female preponderance. Low socioeconomic status, poor education, previous history of Low back pain, physical factors such as lifting heavy loads, repetitive job, prolonged static posture and awkward posture, psychosocial factors such as anxiety, depression, job dissatisfaction, lack of job control and mental stress, working hours and obesity have been found to be associated with Low back pain. A large number of subjects with Low back pain took no consultation, and a majority preferred traditional treatment. Regardless of the findings, the literature on Low back pain in Indian population is inconclusive, reason being sample size of the studies investigated, lack of uniformity in defining

Low back pain, heterogeneity of the populations under study, lack of epidemiological studies in general population, deficient risk factor analysis as a result of which the findings cannot be generalized. A well designed epidemiological studies in terms of case control studies with robust statistical analysis for determining the influence of various factors in Low back pain are the need of the day.

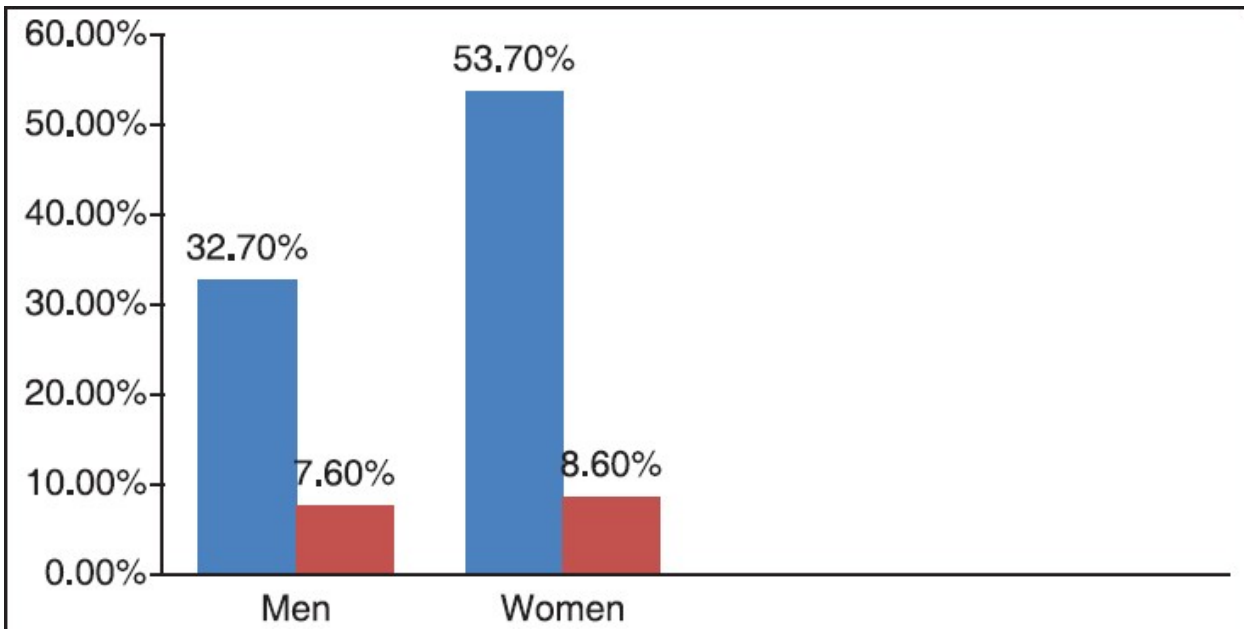

Figure 1.2 Percentage distribution of Prevalence of low back pain in India

Source: Indian journal of pain- 2013

BURDEN OF LOW BACK PAIN AT TAMILNADU LEVEL:

Low back pain may be acute, chronic or sub acute, affecting one's day to day life. Chronic pain has a significant impact on individual's normal sleep, performance of household and other social activities, depression,

sexual relations, strained relationship with family and friends and carry great economic cost (both direct and indirect). Not many studies have been done in Indian rural population of Tamil Nadu.

A study was conducted by **Mathew,** in the non-slum areas of the field practice area of the Urban Health Centre of PSG Institute of Medical Sciences and Research, Coimbatore on the prevalence and correlates of low back pain in adults A cross sectional study from Southern India. The researcher concluded that 28.4% and 52.9% males and females respectively were having low back pain. Height and fat distribution were found to have no association with low back pain. Both men and women, whose household were in the lower socio economic status reported more back pain.

A study was conducted by Muthunarayanan on prevalence of pain among rural adults seeking medical care through medical camps at SRM Medical College Hospital and Research Centre, Kattankulathur, Tamil Nadu, India. The researchers concluded that the prevalence of low back pain in men and women. 53.7 percent of women had complained of low back pain compared to men with 32.7 percent. The proportion of patients with musculoskeletal pain was high, 56.2 percent among the age of above 80 years followed by 50-59 years age group with 51.5 percent.

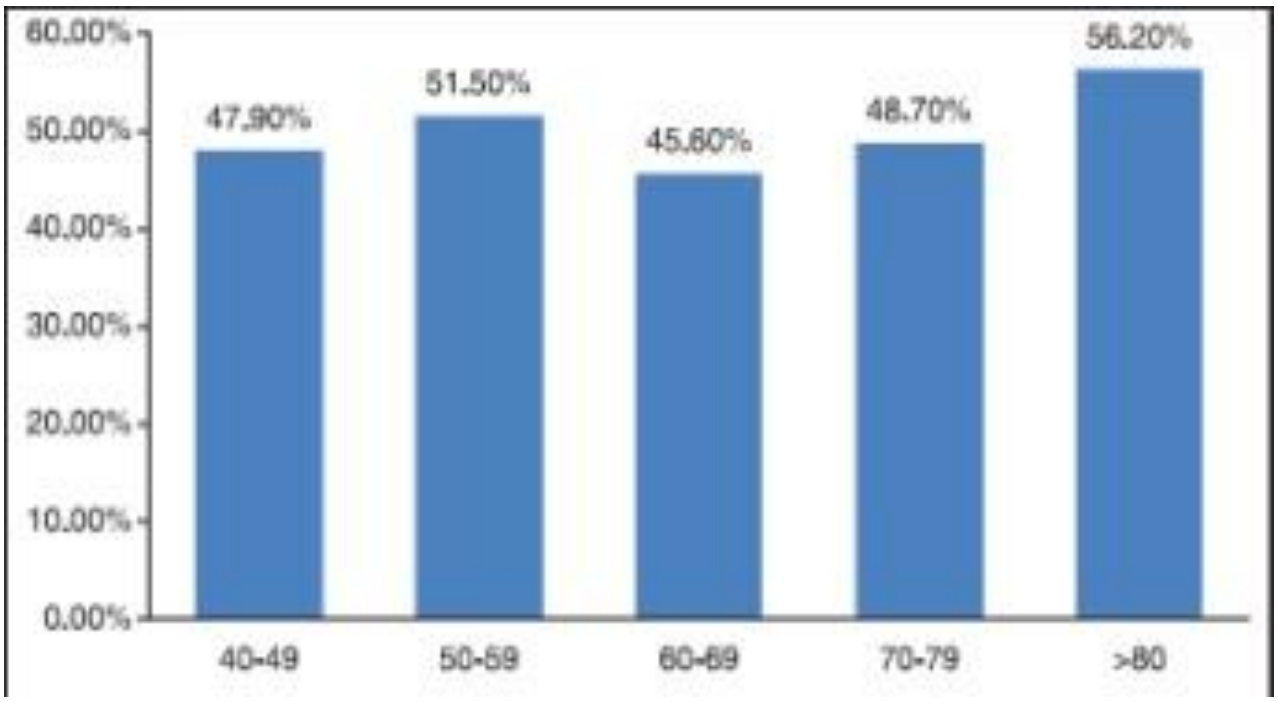

Figure 1.3 Percentage distribution of Prevalence of low back pain in Tamilnadu

Source: Indian journal of pain-2014

This is why the study was conducted to elicit the importance of nursing interventions to treat low back pain.

STATEMENT OF THE PROBLEM:

"A study to assess the effectiveness of nursing interventions among clients with low back pain in MAPIMS at Melmaruvathur".

OBJECTIVES:

- to assess the health status of clients with low back pain.
- to evaluate the effectiveness of nursing intervention among clients with low back pain.
- to associate the demographic variable with post test score.

OPERATIONAL DEFINATION:

EFFECTIVENESS:

It refers to significant improvement in client's health status with low back pain as evidenced by higher mean post test score than the pre test score.

NURSING INTERVENTIONS:

It refers to care provided by researcher to the client with low back pain such as monitoring vital parameters, assessment of pain by using visual analog scale, pain relieving measures by providing comfortable positions, extra comfort devices like air mattress, pillows, hot and cold application,

health education regarding dietary management, personal hygiene, self care activities, maintaining body mechanism and exercises.

CLIENTS:

It refers to those persons who have been clinically diagnosed to have low back pain.

LOW BACK PAIN:

It refers to the unpleasant experience perceived by the client, which is measured by the scores rated by them in a visual analog pain scale.

ASSUMPTIONS:

- Appropriate and timely nursing care to orthopedic clients' with low back pain will prevent complication.
- Proper planned nursing care will reduce the low back pain, disability, and improvement the health status of clients.
- Most of the orthopedic clients will have limited movements and pain due to the low back pain.

HYPOTHESIS:

H1 - There will be statistically significant improvement between pre test and post test score of clients with low back pain.

H2 - There will be statistically significant association between posts-test interventional score with selected demographic variables.

DELIMITATIONS:

The study is delimited to:

1. Clients admitted in male and female orthopedic ward in MAPIMS at Melmaruvathur.

2. Clients who are diagnosed as low back pain.

3. Clients who are willing to participate in the study.

PROJECTED OUTCOME:

Nursing interventions will improve the health status of the clients with low back pain. The pain relieving measures will help to reduce the pain and improve the quality of life of the client.

CONCEPTUAL FRAMWORK

Conceptual framework is a theoretical approach to the study of problems that are scientifically based and emphasizes the selection, arrangement and clarification of its concepts. The purpose of conceptual framework is to organize concepts that represent essential knowledge that might be used by many disciplines. They serve as a springboard for the generation of hypothesis to be tested.

The conceptual framework provides a certain frame of reference for clinical organization of elements used for the study. It gives direction to research for relevant questions on phenomena and points out a solution to practical problems. Conceptual frame work helps to express abstract ideas in more readily understandable on precise form than the original conceptualization. The conceptual frame work for this study was direction from “Wiedenbach’s helping art of clinical nursing theory” given by Ernestine Wiedenbach.

According to Ernestine Wiedenbach’s nursing is nurturing and caring for someone in a motherly fashion. Nursing is a helping service that is rendered with compassion, skill and understanding to those in need for care, counsel and confidence in the area of health.

The practice of nursing comprises a wide variety of services each directed toward the attainment of one of its three components.

Step-1: Identification of the need for help

Step-2: Ministration the need for help

Step-3: Validation that the need was met

STEP-1: IDENTIFICATION OF THE NEED FOR HELP

In the present study the general information which comprises Age, sex, religion, education, occupation, family income, marital status, weight of the client, food habits, family history of low back pain, co-morbid illness, type of family, residential area, previous knowledge, sources of information. In this study the clients with low back pain are identified based on the inclusion criteria, non probability convenient technique was used to select the clients and pretest was conducted.

STEP-2: MINISTRATION THE NEED FOR HELP

According to the theorist in ministering to the client the nurse may give information, apply comfortable measures or carry out therapeutic procedures. Ministration of the help needed has two components

- Prescription
- Realities

Agent: The agent is the practicing nurse or her delegate is characterized by personal attribute capacities, capabilities and most importantly commitment and competence in nursing. In this study investigator is agent.

Recipient: The recipient is the client, characterized by the personal attributes, problem, capabilities, aspirations and most important ability to cope with the concerns or problems being experienced.

Goal: The goal is a desired outcome, the nurse wishes to achieve. The goal is the end result to be attained by nursing action. It is to improve health status and reduce the intensity of back pain by providing nursing intervention among clients with low back pain.

Framework: It consists of the human environmental, professional & organizational facilities that not only make up the context within which nursing is practiced, but also constitute in currently existing limits. In this study it refers to the clients with low back pain in orthopedic ward at MAPIMS Hospital.

STEP-3: VALIDATION THAT THE NEED FOR HELP WAS MET:

The third component is validation. After help has been ministered, the nurse validates that the actions were indeed helpful. Evidence must come from the client that the purpose of the nursing actions has been fulfilled.

CHAPTER II

REVIEW OF LITERATURE

Review of Literature is a key step in research process. Nursing research may be considered as a continuing process in which knowledge gained from earlier studies is an integral part of research in general. In review of literature a researcher analyses existing knowledge before delving into a new study and when making judgment about application of new knowledge in nursing practice. The literature review is an extensive, systematic, and critical review of the most important published scholarly literature on a particular topic.

In the present study the review of literature is organized and presented as follows:

Part –A: Literature related to incidence and prevalence of Low back pain.

Part –B: Literature related to risk factors of Low back pain.

Part –C: Literature related to management and nursing interventions of Low back pain.

Part –A: Literature related to incidence and prevalence of Low back pain.

Palazzo et al (2015), in their analytic study on burden of rheumatic and musculoskeletal diseases in France were carried out. The data on disabilities associated with rheumatic and musculoskeletal diseases were extracted from the national 2008–2009 Disability-Health Survey of 29,931 subjects' representative of the population in France. They used the core set of disability categories for rheumatic and musculoskeletal diseases of the World Health Organization's International Classification of Functioning, Disability and Health for analysis. The investigators assessed the risk of disability associated with rheumatic and musculoskeletal diseases using odds ratios and the societal impact of rheumatic and musculoskeletal diseases using the average attributable fraction. The investigators concluded that rheumatic and musculoskeletal diseases are highly prevalent and significantly affect activity limitations and participation restrictions.

Thiese et al (2014) in their cohort study, Cross-sectional analyses of data from a multicenter prospective study to evaluate differences in lifetime prevalence, 1-month period prevalence, and point prevalence of low back pain. Workers were from 28 different employment settings in 4 diverse U.S. states. All workers completed computerized questionnaires and structured interviews. Low back pain prevalence measures were stratified by pain rating. The investigator concluded that the higher pain rating thresholds

yield lower prevalence measures and may impact assessments of risk factors and the differences in pain ratings may allow for focused surveillance within an occupational cohort.

Mathew et al 2013), in their cross sectional study from Southern India, to estimate the prevalence of low back pain and its association with height, fat distribution, reproductive history and socioeconomic influence. A representative sample of 401 men and 403 women aged 20 years and above were selected and studied the investigators concluded that the findings were confirms the higher burden of back pain on the socially disadvantaged, but cannot yet be explained by known risk factors.

Garg et al, (2013) in their descriptive study to estimate the prevalence of Low back pain and its association with height, fat distribution, reproductive history and socioeconomic influence. A representative sample of 401 men and 403 women aged 20 years and above were selected and studied. The finding confirms the higher burden of back pain on the socially disadvantaged, but cannot yet be explained by known risk factors.

Hoy et al 2013, in their prospective study of Systematic reviews was performed of the prevalence, incidence, remission, duration, and mortality risk of low back pain in which four levels of severity were identified for low back pain with and without leg pain, each with their own

disability weights. Out of all 291 conditions studied in the Global Burden of Disease 2010 Study, low back pain ranked highest in terms of disability and sixth in terms of overall burden. The researcher concluded that the low back pain causes more global disability than any other condition and further suggested that with the ageing population, there was an urgent need for further research to better understand low back pain across different settings.

Garcia J et al (2012), in their analytics study to evaluate the prevalence of chronic non-specific Low back pain among the Latin American population. A narrative synthesis of the results was drafted, which was later validated by a panel of clinical experts on pain. Twenty-eight studies were included in the review, comprising a total of 20,559 subjects from 7 countries in the region. The study result reveal that prevalence of Low back pain of 16.7 percent for the population exposed to a lower number of risk factors and 65 percent for the higher risk subgroup and exhaustive search of studies evaluating the epidemiology of chronic Low back pain in the Latin America region**.**

Wani et al (2012), in their conservative study on treatment of Low back pain and sciatica. Epidural steroid injection is being slowly established as a reliable mode of conservative management in many orthopaedic centers' of the world. A preliminary report of on-going study of

the use of epidural steroid injection the management of low back pain cases coming to the orthopaedic department of Government Medical College Jammu in which150 Patients reporting with low back pain and sciatica not responding to other modes of conservative treatment were prospectively followed over a two year period. The caudal epidural steroid injections were performed, as many as three injections two week apart. The results concluded that, 150 patients were observed for the duration of 2 years, the average duration of symptoms was for six months. The investigators concluded that the epidural Steroid Injection was a simple, cost effective and minimally invasive mode of treatment of Low Back Pain and sciatica and provided pain free period to enable the patient for physiotherapy which helps in early recovery.

Azize -Karah., (2009) in their comparative study the investigator revealed that, workers experience more Low back pain than many other groups, the incidence varies among countries. Work activities involving bending, twisting, frequent heavy lifting, awkward static posture and psychological stress are regarded as causal factors for many back injuries. A 44-item questionnaire was completed by 1600 employees in six hospitals associated with one Turkish university using a cross-sectional survey design. Data were collected over nine months from December 2005 to August 2006

and analyzed using Chi square and multivariate logistic regression techniques. The researcher concluded that the preventive measures should be taken to reduce the risk of lower back pain, such as arranging proper rest periods, educational programmes to teach the proper use of body mechanics and smoking cessation programme.

Chair SY, Li KM, **(2009),** conducted a prospective study on Factors that affect back pain among Hong Kong Chinese patients after coronary angiography. A prospective study within a randomized clinical trial employing secondary analysis of an existing data set from 419 Chinese adults receiving low back pain were used. Back pain was assessed at 6 hours and the next morning after coronary angiography, using the Numeric Pain Intensity Scale. The investigators concluded that the study was helpful to nurses to have a better understanding about patients' physical needs and appropriate nursing care that can be planned to enhance patient comfort following low back pain.

David Cassidy, et al (2005), in their prospective cohort study on to estimate incidence and course of severity-graded low back pain episodes in adults. An incidence cohort of 318 subjects free of low back pain and a course cohort of 792 prevalent cases were formed from respondents to a mailed survey. Incident, recurrent, persistent, aggravated, improved, and

resolved episodes were defined by the Chronic Pain Questionnaire. The investigators concluded that most new and recurrent low back pain episodes are mild. Less than one third of cases resolve annually and more than 20 percent recur within 6 months. Low back pain episodes are more recurrent and persistent in older adults**.**

Part –B: Literature related to risk factors of Low back pain:

Muthunarayanan et al (2014) in their cross-sectional descriptive studies was conducted to estimate the prevalence of pain among people above the age of 40 years, to identify the common sites of pain complaints and to association of body mass index with musculoskeletal pains. A cross-sectional study was carried out among 1246 participants through our weekly medical camp in 12 villages of Kattankulathur block in Kanchipuram District of Tamil Nadu from August 2013 to October 2013. The investigators concluded that an appropriate strategy and guidelines have to be developed to manage the problem of pain among above 40 years age group at primary care level of the rural communities in India.

Furtado et al (2014) conducted a study to evaluate potential risk factors related to Low back pain in the daily routines of two sets of youths: individuals complaining of chronic Low back pain and a control group. A univariate analysis showed statistically significant associations ($P < 0.05$)

with the presence of Low back pain and some factors. There was negative associations between Low back pain and the following variables, body mass index, health self-assessment, physical functioning, body pain, general health, and vitality, social functioning. There was a positive correlation with the following variables: global pain by visual analog scale, presence of diffuse pain and number of tender points. The investigators concluded that some variables related to chronic diffuse pain and lower quality of life might be associated to chronic Low back pain in young adults. However, longitudinal studies are necessary.

P Shahul Hameed (2013), conducted a Cross sectional study on the prevalence of Work Related Low back pain as one of the major Work-related Musculoskeletal Disorders amongst the Information Technology Professionals in India. The investigator concluded that concludes that the Low back pain is the major Work Related Musculoskeletal Disorder among the IT Professionals studied and thus an appropriate prevention and intervention strategies should be employed to create a healthier working scenario and thereby improve productivity.

Heneveer et al (2011) conducted a study to systematically evaluate the available evidence on the association between physical activity i.e. occupational load and non-occupational physical activities and Low back

pain. A systematic approach was used to explore the literature between 1999 and 2009. The investigators concluded that, the occurrence of low back pain was related to the nature and intensity of the physical activities undertaken.

Koley et al, 2010 conducted of study to evaluate and correlate the various biological risk indicators of non-specific Low back pain in young adults. The study was based on a total of 100 purposively selected young adults, 50 males and 50 females, aged 18 – 25 years with non-specific Low back pain and 100 matched controls, 50 males and 50 females, asymptomatic with no history of Low back pain taken from Amritsar, Punjab, India. The investigator concluded that indicated statistically significant differences ($p<0.05$) in abdominal muscle endurance between boys and controls and in weight biceps skin fold, height, triceps skin fold, sub scapular skin fold and in percent lean body mass between non-specific Low back pain girls and controls.

Part –C: Literature related to management and nursing interventions of Low back pain:

Luedtke et al, 2015, in their analytics study on the effectiveness of transcranial direct current stimulation alone and in combination with cognitive behavioral management in patients with non-specific chronic low back pain. Double blind parallel group randomized controlled trial with six

months. The researcher concluded that the trial on the effectiveness of transcranial direct current stimulation for the reduction of pain and disability do not support its clinical use for managing non-specific chronic low back pain.

Kale et al 2015, in their study to find out the immediate effect of modified lumbar SNAG on pain, range of motion and Back performance Scale in non-specific chronic low back patients. 30 subjects were recruited for study. The results concluded that modified lumbar SNAG has an immediate effect on reducing pain and Back performance scale score and an improvement in lumbar flexion range of motions.

Manchikanti et al 2015, in their comparative assessment of randomized controlled trials of caudal and lumbar interlaminar epidural injections in chronic lumbar discogenic pain. The investigators concluded that patients with axial or discogenic pain in the lumbar spine after excluding facet joint and Joint pain, epidural injections of local anesthetic by the caudal or lumbar interlaminar approach may be effective in managing chronic low back pain with a potential superiority for a lumbar interlaminar approach over a caudal approach.

Mac Sorley et al (2014) in their descriptive study Home healthcare nurses play a critical role in pain assessment and management in

elderly patients. People 65 years of age and older are the largest consumers of prescription and nonprescription pain medications in the United States and are at increased risk for adverse reactions and inadequate pain management. The investigators concluded that the strategies to assist hospice and home healthcare nurses in assessing and managing elderly patients' pain and assist nurses in streamlining elderly patient care and improving quality of life while decreasing mortality and morbidity for the selected patient population**.**

Dr Rundell et al (2014), in their descriptive study of The World Health Organization's Classification of Functioning, Disability and Health model was developed to describe, classify, and measure function in health care practice and research. Recently, this model has been promoted as a successor to the Nagi model by some authors in the physical therapy literature and management of acute and chronic Low back pain. Two patients, 1 with acute Low back pain and 1 with chronic Low back pain, were treated pragmatically using the World Health Organization's Classification of Functioning, Disability and Health model and other applicable models of clinical reasoning. Manual therapy, exercise, and education interventions were directed toward relevant body structure and function impairments, activity limitations, and contextual factors based on

their hypothesized contribution to functioning and disability. The researchers concluded that both patients demonstrated clinically significant improvements in measures of pain, disability, and psychosocial factors after 3 weeks and 10 weeks of intervention, respectively.

Briggs (2013), in their study of systematic review eight studies were included in the systematic review, of which 7 were randomized controlled trials and one a quasi-randomized controlled trial. The investigators concluded that the experimental group experienced a decrease, both in the perception as well as in the intensity of pain, throughout the whole period of the study, while the control group maintained relatively the same level of pain and therefore concluded that listening to music is an effective nursing intervention for the reduction of chronic pain perceived in populations with osteoarthritis that are older than 65 years and living in the community.

Martin, et al 2012 A high-qualities, systematic review on the role of imaging in low back pain 11 found that lumbar imaging for low back pain, without indications of serious underlying conditions, does not improve clinical outcomes. The researcher concluded that physical exercise might be the only effective intervention to prevent episodes of low back pain among working-age adults and other interventions, including stress management,

shoe inserts, back supports, ergonomic or back education, and reduced lifting programs have been found to be ineffective in preventing episodes of low back pain.

Ann et al, 2011 in their cohort study conducted in 30 states from April 2009 through April2010, the researchers identified material-handling employees in 160 new retail merchandise stores 89 required back belt use; 71 had voluntary back belt use. The researchers suggested that, neither frequent back belt use nor a belt-requirement store policy was significantly associated with back injury claim rates or self-reported back pain.

Dupeyron et al 2011, in their study therapeutic patient education to evaluate the role and impact of therapeutic patient education in the medical and surgical management of low back pain. A non-systematic literature review of few formal therapeutic patient education programmes were rigorously evaluated in the context of low back pain. In most cases, therapeutic patient education tools were combined with other interventional measures that vary according to the conceptual models used - thus limiting the extent to which the effect of therapeutic patient education alone can be judged. Information that complies with the guidelines modifies knowledge and inappropriate beliefs. The investigator concluded that whether formalized or not, therapeutic patient education appeared to reduce the

negative consequences of fear-avoidance behavior and thus promotes treatment compliance in low back pain patients, from the acute phase onwards.

Liu YC (2010) in their retrospective study on Lateral position one-stage combined posterior-anterior approaches for treatment of lumbosacral tuberculous spondylitis at Tianjin Hospital, China. A retrospective study was conducted for 15 patients with lumbosacral tuberculosis undergoing one-stage combined posterior-anterior approaches for radical lesion resection and reconstruction. The investigator concluded that the patients with lumbosacral tuberculosis undergoing one-stage combined posterior-anterior approaches may achieve radical lesion resection, posterior-anterior collaboration and reconstruction.

Schweickest, Rangreji D.S.,(2010) :- evaluated the performing activities of daily living at hospital discharge and found that patients under exercise intervention had a higher rate of returning in independent functional status.

Heidi L et al (2009) conducted a comparative study to evaluate the effectiveness of low back pain manipulative therapy in combination with physical therapy as compared to standard physical therapy. In their study the investigator compared the effect of Spinal manipulative therapy in

combination with standard physical therapy versus standard physical therapy alone to treat chronic low back pain. A total of 66 subjects were enrolled in the study. The researchers concluded that both interventions were moderately effective in managing pain and disability in patients with chronic low back pain who participate in the Worker's Compensation Program, but that the addition of a Spinal manipulative therapy seemed to add minimal supplemental benefit to standard treatment.

Lopez (2009) conducted a study on clinical effectiveness of length of bed rest for patients recovering from trans-femoral diagnostic coronary angiography among Oklahoma state university, USA in which eighteen trials involving a total of 4294 participants were included. The researchers concluded that there was evidence of benefit relating to decreased incidence and severity of back pain and cost-effectiveness following 3 hour of bed rest. Further suggested that nurses should consider a balance between avoiding increased risk of hematoma formation following 2 to 2.5 hours of bed rest, and back pain following more than 4 hour of bed rest**.**

Caner H (2008) conducted a study on Lumbar micro discectomy with spinal anesthesia and comparison of prone and knee-chest positions of hemodynamic and respiratory function, at Baskent University Istanbul

Hospital in which Forty-five patients were randomized for lumbar microdiscectomy with spinal anesthesia under either prone position or knee-chest position. The researchers concluded that spinal anesthesia is appropriate for lumbar disc surgery with respect to the hemodynamic parameters in both prone and knee-chest positions, and pulmonary functions.

Mohammadil A Z (2008), in their case control study to examine the effect of music on the levels of anxiety, stress, and depression experienced by patients with low back pain at Modares University, Republic of Iran as measured by the 21-item Depression Anxiety Stress Scales. The investigator concluded that the differences in pre intervention and post intervention scores demonstrated that there were significant decreases in mean scores of state anxiety, stress and depression in the intervention group, who listened to 20 minutes of relaxing music, as compared with the control group who had 20 minutes of bed rest.

Patel S (2008) conducted a study on dosimetric effects of the prone and supine positions on image guided localized prostate cancer radiotherapy at university of Maryland, Baltimore, USA, in which twenty patients those received external beam radiotherapy in the supine and prone positions underwent approximately 10 serial Computed Tomography examinations in their respective treatment position in non-consecutive days,

except for one patient who was treated prone but serially imaged supine. The researchers concluded that soft-tissue alignment combined with 5mm planning margins was minimizing the planning and delivery uncertainties in both the supine and prone positions.

CHAPTER III

METHODOLOGY

Research methodology is the systematic way to solve the research problem and also to carry out an academic study and research in a correct manner, **(Polit and Beck, 2004).**

The methodology of research indicates the general pattern of organizing the procedure of gathering valid and reliable data for an investigation. Research methodology provides a brief description of the method adopted by the investigator in the study. The research methodology includes research approach, research design, the study setting, the population, and sample size, sampling technique, criteria for sample selection, instrument and tools for data collection.

RESEARCH APPROACH

A research approach tells the researcher what data to collect, how to collect and how to analyze. It also suggests possible conclusions to be drawn from the data. A research approach using pre intervention test and post intervention test was adopted for this study in order to accomplish the objectives

Quantitative approach was used for this study without control group by manipulating the variables to assess the effectiveness of nursing interventions on clients with low back pain.

RESEARCH DESIGN

Research design is a master plan specifying the methods and procedures for collection and analyzing the needed information **(Ahuja. R, 2001).**

The research design is a plan, structure and strategy for investigations in answering the research questions. It is the overall plan or blue print selected to carry out the study.

Pre experimental one group pre-test and post-test design was used to evaluate the effectiveness of nursing interventions among clients with low back pain.

POPULATION

Population refers to the entire aggregation of cases that meets the designed criteria (**Polit & Beck, 2001**).

The population of the study includes all the clients with low back pain who are admitted in the ortho ward in Melmaruvathur Adhiparasakthi Institute of Medical Science and Research at Melmaruvathur.

TARGET POPULATION:

Population is a group whose member possesses specific attributes that a researcher is interested to study. Target population in the present study was orthopedic clients.

ACCESSIBLE POPULATION:

They are the clients' with low back pain who were available on the day of data collection.

SETTING:

Research setting is the surrounding in a research where the collection of data is to be taken. **(Ahuja.R, (2001).**

Setting refers to the physical locations and conditions in which the data collections have been taken.

This study was conducted in orthopedic ward, in Melmaruvathur Adhiparasakthi Institute of Medical Science and Research at Melmaruvathur.

VARIABLES:

Variables are characters that can have more than one value. The categories discussed in the present study.

1. **Independent variable:**

An independent variable is the one is believed to cause or influence dependent variable. It stands alone and does not dependent on any other, **(Polit and Beck, 2004**

Independent variable – nursing intervention

2. **Dependent variable:**

A dependent variable is the outcome variable of interest, the variable that is hypothesized to dependent on caused by another variable, **(Polit and Beck, 2004).**

Dependent variable – low back pain.

SAMPLE:

Sample is a subset of the population selected for a particular study and the members of a sample are the subjects, (**Burns N, 1996)**.

Sample is a proportion of the population that has been selected to represent the population of interest**. (Talbot, 1999).**

The total sample, clients with low back pain who were present in the hospital with in the period of study and those who met the eligible criteria

SAMPLE SIZE:

Sample size is normally decided by nature of the study, nature of population, type of sampling technique, total variables, statistical test adopted for data analysis, sensitivity of the measures and attrition (**Polit & Beck, 2001**).

The total number of sample was 50 clients with low back pain who fulfilled the inclusion criteria.

SAMPLE TECHNIQUE:

Sampling is the process of selecting a portion of the population to represent the entire population **(Polit & Beck, 2001).**

Non-probability convenient sampling technique was used in this study.

CRITERIA FOR SAMPLE SELECTION:

The sample of the study was selected based on the following criteria;

INCLUSION CRITERIA:

1. The clients who are clinically diagnosed with low back pain.
2. The client who understand Tamil or English.

3. Both male and female.

4. Clients who are in the age group between 20-60 years and above.

EXCLUSION CRITERIA:

1. Clients with other critical disease conditions like degenerative diseases.

2. Those that who are not willing to participate

3 .Clients who have fractured bones, traction etc.

INSTRUMENT FOR DATA COLLECTION

Instruments for data collection are derived under the following headings

SECTION-A -Demographic variables

SECTION-B -Self structured rating scale

SECTION-C –Nursing care protocol for clients with low back pain.

SECTION-A -DEMOGRAPHIC VARIABLES

This section consists of information about demographic variables such as age, gender, educational status, and monthly family income, type of family, religion, occupation, marital status, personal habits, family history, and type of work and food habits.

SECTION-B -SELF STRUCTURED RATING SCALE

In this session, self-structured rating scale is used to assess the effectiveness of nursing intervention among clients with low back pain.

SECTION-C - NURSING CARE PROTOCOL FOR THE CLIENTS WITH LOW BACK PAIN.

It consists of nursing care provided by researcher to the client with low back pain such as monitoring vital parameters, assessment of pain by using visual analog scale, pain management by providing comfortable positions, extra comfort devices like air mattress, pillows, hot and cold application, health education regarding dietary management, personal hygiene, self care activities, maintaining body mechanism and exercises, and which will improve health status of the client with low back pain.

DESCRIPTION OF THE TOOL

The structured tool was developed based on the objectives of the study and also based on research experts concerns, review of literature. The instrument consists of four parts, they are

- Pro form for demographic variables
- Self structured assessment rating scale
- Protocol for nursing care
- Observation check list

SECTION- I: **DEMOGRAPHIC VARIABLES**

This section consists of information about demographic variables such as age in years, gender, religion, educational status, occupation, family income per month, weight of the client, food habits, family history of low back pain, type of work, co-morbid illness, previous knowledge, source of information, Marital status, type of family, residential area, personal habits.

SECTION-II THE SELF-STRUCTURED RATING SCALE

It consists of the self-structured rating scale, which was focused on nursing care on clients with low back pain. It includes such as temperature, pain, intensity of pain, range of motion, muscle strength, gait, skin texture, tenderness, comfortable position, mobility, and self care activities

SECTION-III PROTOCOL FOR NURSING CARE

It consists of nursing care which was provided on clients with low back pain. It consists of monitoring vital parameters, assessment of pain and its management, providing comfortable positions, extra comfort devices like air mattress, pillows, maintaining body mechanism and exercises, Personal hygiene, Self care activities, hot and cold application, elimination needs,

dietary management, and health education which will improve health status of the client with low back pain.

VALIDITY

The tool was prepared by the investigator under the guidance of experts and the basis of objectives which were assessed evaluated and accepted by the experts of Research Committee. Based on the validity suggestions, reframing of the instrument was done.

RELIABILITY

The structured tool has been used by the investigator to find out the reliability, which were evaluated by the experts of the research committee and also checked by other experts in the field. The reliability was 0.72 test-retest method was used. Reliability and practicability of the tool was tested through the pilot study and used for the main study.

INFORMED CONSENT

The investigator obtained permission from the research committee and from the institution and written consent was obtained the study. The data collection was done for six weeks by using interview and observational

method. After assessing the clients' status, nursing care was given and later post assessment was done to evaluate the progress of the patients.

DATA COLLECTION PROCEDURE

The main study was conducted for six weeks among the patients, who met the inclusion criteria, by using convenient sampling technique. The investigator first introduced himself to the patients and established a good rapport with them. The demographic variables were collected from the patients, pretest was done with the help of the self-structured rating scale, and nursing care were carried out and evaluated for the patients with low back pain.

SCORING PROCEDURE

The instrument consists of self-structured rating scale used for orthopedic clients with low back pain. Maximum score is three and the minimum score is one. The percentage is calculated by using the formula as follows.

$$\text{Score interpretation} = \frac{\text{Obtained score}}{\text{Total score}} \times 100$$

SCORE INTERPRETATION

Table 3.1

DESCRIPTION	PERCENTAGE
MILD	< 50 percent
MODERATE	50 – 75 percent
SEVERE	>75 percent

REPORT OF PILOT STUDY

The pilot study was conducted to find out the effectiveness of nursing care on orthopedic clients with low back pain in Melmaruvathur Adhiparasakthi Institute of Medical Science and Research at Melmaruvathur, for a period of one week. The modified tools were utilized by the investigator to find out the reliability and validity. The tools were evaluated by the experts of the research committee. The investigator used convenient sampling technique to select five samples and by using checklist and rating scale the data were collected. Post test was conducted on 7^{th} day with the same self-structured rating scale and practice assessing checklist. Data were collected. The health condition of the clients with low back pain

was assessed. The nursing care was provided as per the tool and the health status was evaluated and data were analyzed by paired “t” test. Therefore the nursing care was effective in the improvement of health status of clients with low back pain.

PLAN FOR DATA ANALYSIS

The data obtained was analyzed by using Descriptive statistics and inferential statistics. Descriptive statistics (frequency and percentage to assess the demographic characteristics mean, standard deviation were carried out to assess the health condition of the client) and inferential statistics (Paired “t” test to compare the difference between pre and post test Chi – square test used to associate the selected demographic variable and nursing interventions) were used to analyze the data.

STATISTICAL METHOD

Descriptive statistical analysis and inferential statistical analysis methods had been used to find out the percentage, mean, standard deviation, paired “t” test and chi- square

Table: 3.2

S.NO	DATA ANALYSIS	METHODS	REMARKS
1.	Descriptive analysis	The total number of score, percentage of score, percentage of score, mean and standard deviation.	To describe demographic variables of orthopaedic clients with low back pain
2.	Inferential Analysis	Paired "t" test	Analyzing the effectiveness between pre and post score of orthopaedic clients with low back pain
		Chi square test	Analyzing the association between the selected demographic variables and effectiveness of nursing care on orthopaedic clients with low back pain

CHAPTER-IV

DATA ANALYSIS AND INTERPRETATION

Analysis of data is a process of inspecting, cleaning, transforming and modeling data with the goal of highlighting useful information, suggesting conclusions and supporting decision making. Data analysis has multiple facts and approaches, encompassing diverse techniques under a variety of names, in different areas of science and social science domains.

This chapter deals with the analysis and interpretation of data collected from 50 samples on clients with low back pain in Melmaruvathur Adhiparasakthi Institute of Medical Science and Research. It deals with the description of tool, report of pilot study, validity, reliability, data collection procedure, score interpretation, method of data analysis, results and presentation of findings. This study has done with rating scale.

The statistical methods used for analysis were mean, standard deviation, paired t- test and chi-square.

DATA ANALYSIS AND INTERPRETATION HAVE BEEN DONE UNDER THE FOLLOWING HEADINGS

SECTION-A

Frequency and percentage distribution of demographic variables of orthopedic clients with low back pain

SECTION-B

Comparison between frequency and percentage distribution of health status of orthopedic clients with low back pain

SECTION-C

Comparison between mean and standard deviation of pre and post condition of effectiveness of nursing care on orthopedic clients with low back pain

SECTION-D

Mean and standard deviation of improvement score for orthopedic clients with low back pain.

SECTION -E

Analyzing the association between the demographic variables with the effectiveness of nursing care on clients with low back pain.

SECTION-A

Table 4.1: FREQUENCY AND PERCENTAGE DISTRIBUTION OF DEMOGRAPHIC VARIABLES OF ORTHOPEDIC CLIENTS WITH LOW BACK PAIN

N=50

S.NO	DEMOGRAPHIC VARIABLES	FREQUENCY	PERCENTAGE
1.	Age in years		
	a)20 -30	10	20.0
	b)31 -40	16	32.0
	c)41 -50	14	28.0
	d)51 and above	10	20.0
2.	Gender		
	a)Male	27	54.0
	b)Female	23	46.0
3.	Religion		
	a)Hindu	40	80.0
	b)Christian	4	8.0
	c)Muslim	6	12.0
	d)other	0	0.0
4.	Educational status		
	a)Illiterate	9	18.0
	b)Primary education	11	22.0
	c)Secondary education	19	38.0
	d)Graduate	11	22.0
5.	Occupation		
	a)Unemployed	3	6.0
	b)Coolie	24	48.0
	c)Business	15	30.0
	d)Professional	8	16.0

6.	Family income per month		
	a) Upto Rs.4000	2	4.0
	b)Rs.4001 -5000	7	14.0
	c)Rs.5001 -6000	15	30.0
	d)Above Rs. 6000	26	52.0
7.	Weight of the client		
	a)50-60 kg	13	26.0
	b)61-70 kg	17	34.0
	c)71-80 kg	17	34.0
	d)Above 80 kg	3	6.0
8.	Food Habits		
	a)Vegetarian	2	4.0
	b)Non-vegetarian	48	96.0
9.	Family history of low back pain		40.0
	a)Yes	20	60.0
	b)No	30	
10.	Type of work		12.0
	a)Strenuous activity	6	56.0
	b)Moderate work	28	32.0
	c)Non-strenuous activity	16	
11.	Co-morbid illness		16.0
	a)Hypertension	8	12.0
	b)Diabetes mellitus	6	34.0
	c)Vitamin-D deficiency	17	38.0
	d) Others	19	
12.	Previous knowledge		52.0
	a)Yes	26	48.0
	b)No	24	
13.	Source of information		26.0
	a)Doctor	13	44.0
	b)Nurse	22	12.0
	c)Health worker	6	18.0
	d)Others	9	

14.	Marital status		82.0
	a)Married	41	18.0
	b)Unmarried	9	
15.	Type of family		
	a)Joint	29	58.0
	b)Nuclear	21	42.0
16.	Residential area		
	a)Urban	23	46.0
	b)Rural	27	54.0
17.	Personal habits		
	a)Alcohol	11	22.0
	b)Smoking	10	20.0
	c)Tobacco chewing	8	16.0
	d)None	21	42.0

Table :4.1 depicts the frequency and percentage distribution of the personal factors of demographic variables Age in years, Gender, Religion, Educational status, Occupation, Family income per month, Weight of the client, Food Habits, Family history of low back pain, Type of work, Co-morbid illness, Previous knowledge, Source of information, Marital status, Type of family, Residential area, Personal habits

Out of 50 clients, 10 (20.0%) were in 20 -30years, 16 (32.00%) were in 31-40 years, 14 (28.00%), were in 41-50 years, 10 (20.0%) were in 50 and above years.

With regard sex, male 27 (54.0%) and female 23(46.0%).

Regarding religion 40 (80.0%) were Hindu, 6 (12.0%) were Muslim, 4 (8.0%) were Christian.

Among 50 clients, 9(18.0%) were illiterate, 11(22.0%) were in primary education, 19 (38.0%) were in secondary education, 11 (22.0%) were in graduate.

With regard to the occupation 3(6.0%), were unemployed, 24(48.0%) were coolie, 15(30.0%) were business, 8(16.0%) were professional.

Regarding family income per month, 2(4.0%) were upto Rs4000, 7(14.0%) were in the range of Rs 4001-5000, 15 (30.00%) were in the range of Rs. 5001-7000, 8(26.67%), 26(52.0%) were in the range of above Rs 6001.

Among the 50 clients, 13 (26.0%) were 50-60kg of weight, 17(34.0%) were 61-70kg, 17(34.0%) were from 71-80kg, and 3(6%) were above 80kg of weight.

Regarding the food habit or patterns of the 50 clients, 2 (4.0%) were vegetarians, and (96.0%) were nuclear family.

Regarding the family history of low back pain out of the 50 clients, 20(40.0%) were had a family history of low back pain and 30(60.0%) were not having a history of low back pain.

As for the type of the work, that the clients followed, 6(12.0%) were strenuous worker, 28(56.0%) were moderate workers and 16(32.0%) were non strenuous workers.

With the regards to co-morbid of other illness, 8(16.0%) were a known case of hypertension, 6(12.0%) were having diabetes mellitus, 17(34.0%) were having vitamin-D deficiency and remaining 19(38.0%) were having other co-morbid.

With regard to previous knowledge, 26(52.0%) were already knowing about the low back pain, and remaining 24(48.0%) were not having any knowledge regarding low back pain.

Of the 50 clients, 13(26.0%) had got the information from the doctors, 22(44.0%) from nurses, 6(12.0%) from health workers, and 9(18.0%) from other resources.

Out of 50 clients, 41(82.0%) were married and 9(18.0%) were bachelors or unmarried.

As for the type of family, 29(58.0%) belonged to joint family and the remaining 21(42.0%) belonged to nuclear family

With regards to residential area, 23 (46.0%) were from urban and the remaining 27(54.0%) were from rural area.

With regard to personal habits, 11(22.0%) were having of taking alcohol drinking, 10(20.0%) were cigarette smoking, 8 (16.0%) were tobacco chewing, 21(42.0%) had none of the above habits.

SECTION – B

Table 4.2 – COMPARISON BETWEEN FREQUENCY AND PERCENTAGE DISTRIBUTION OF HEALTH STATUS OF ORTHOPEDIC CLIENTS WITH LOW BACK PAIN

N=50

HEALTH STATUS	PRE TEST		POST TEST	
	Frequency	Percentage	Frequency	Percentage
MILD	0	0	47	94.0
MODERATE	9	18.0	3	6.0
SEVERE	41	82.0	0	0

Table 4.2 shows that the deterioration and improvement of orthopedic clients with low back pain on pretest and posttest based on self-structured rating scale. On the pretest day most of the clients 41 (82.0%) were in severe health condition, 9(18.0%) were in moderate health condition, 0 (0%) in mild condition. On the posttest day 47 (94.0 %) were in mild condition, 3 (6%) were in moderate health condition and none of the patient was in severe health condition.

SECTION – C

TABLE – 4.3 COMPARISONS BETWEEN MEAN AND STANDARD DEVIATION OF PRETEST AND POSTTEST OF EFFECTIVENESS OF NURSING INTERVENTIONS ON ORTHOPEDIC CLIENTS WITH LOW BACK PAIN

N= 50

Score Interpretation	Mean	N	Standard Deviation
PRETEST	19.660	50	2.869
POSTTEST	39.960	50	4.398

Table 4.3 shows that the overall mean of health condition of the orthopedic clients with low back pain was39.960, with standard deviation of 4.398 on first day and the mean on seventh day were 19.660 with 2.869of standard deviation.

SECTION-D

TABLE-4.4: MEAN AND STANDARD DEVIATION OF IMPROVEMENT SCORE FOR ORTHOPEDIC CLIENTS WITH LOW BACK PAIN.

Paired sample test

N= 50

Score Interpretation	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		"t"
				Lower	Upper	
Improvement score	20.300	5.164	0.730	18.833	21.768	27.799*

**significant at p<0.05

Table 4.4 reveals that the mean and standard deviation of improvement score for effectiveness of selective measures score among 50 orthopedic clients with low back pain, Mean 20.300, standard deviation 5.164, 95% confidence interval shows that it lies in range of 21.768, 18.833. Tabulated value was 27.799, df 49 and P value is < 0.05, which shows that there is a significant improvement in low back pain.

SECTION-E

TABLE -4.5 ANALYZING THE ASSOCIATION BETWEEN THE SELECTED DEMOGRAPHIC VARIABLES AND EFFECTIVENESS OF NURSING CARE ON ORTHOPEDIC CLIENTS WITH LOW BACK PAIN

N=50

S.No	DEMOGRAPHIC VARIABLE	Post score					
		Moderate		Mild		Chi square	p value
		N	%	N	%		
1	Age in years						
	a)20 -30	0	0	10	20		
	b)31 -40	1	2	15	30	2.983	0.394
	c)41 -50	2	4	12	24		
	d)51 and above	0	0	10	20		
2	Gender						
	a)Male	2	4	25	50	0.206	0.65
	b)Female	1	2	22	44		
3	Religion						
	a)Hindu	1	2	39	78		
	b)Christian	1	2	3	6	4.639	0.096
	c)Muslim	1	2	5	10		
	d)other	0	0	0	0		
4	Educational status						
	a)Illiterate	0	0	9	18		

	b)Primary education	1	2	10	20	4.868	0.182
	c)Secondary education	0	0	19	38		
	d)Graduate	2	4	9	18		
5	Occupation						
	a)Unemployed	0	0	3	6		
	b)Coolie	1	2	23	46	2.275	0.517
	c)Business	2	4	13	26		
	d)Professional	0	0	8	16		
6	Family income per month	0	0	2	4		
	a) Upto Rs.4000	0	0	7	14	0.718	0.869
	b)Rs.4001 -5000	1	2	14	28		
	c)Rs.5001 -6000	2	4	24	48		
	d)Above Rs. 6000						
7	Weight of the client						
	a)50-60 kg	0	0	13	26		
	b)61-70 kg	1	2	16	32	4.805	0.187
	c)71-80 kg	1	2	16	32		
	d)Above 80 kg	1	2	2	4		
8	Food Habits						
	a)Vegetarian	1	2	1	2	7.151*	0.007
	b)Non-vegetarian	2	4	46	92		
9	Family history of Low back pain						
	a)Yes	1	2	19	38	0.059	0.808
	b)No	2	4	28	56		

10	Type of work						
	a)Strenuous activity	0	0	6	12		
	b)Moderate work	1	2	27	54	1.874	0.392
	c)Non-strenuous activity	2	4	14	28		
11	Co-morbid illness						
	a)Hypertension	0	0	8	16		
	b)Diabetes mellitus	0	0	6	12	1.584	0.663
	c)Vitamin-D deficiency	1	2	16	32		
	d) Others	2	4	17	34		
12	Previous knowledge						
	a)Yes	0	0	26	32	3.457	0.063
	b)No	3	6	21	42		
13	Source of information						
	a)Doctor	2	4	11	22		
	b)Nurse	1	2	21	42	3.07	0.381
	c)Health worker	0	0	6	12		
	d)Others	0	0	9	18		
14	Marital status						
	a)Married	3	6	38	76	0.701	0.403
	b)Unmarried	0	0	9	18		
15	Type of family						
	a)Joint	0	0	29	58	4.407*	0.036
	b)Nuclear	3	6	18	36		
16	Residential area						
	a)Urban	0	0	23	46	2.719	0.099

	b)Rural	3	6	24	42		
17	Personal habits						
	a)Alcohol	1	2	10	20		
	b)Smoking	0	0	10	20	1.798	0.615
	c)Tobacco chewing	0	0	8	16		
	d)None	2	4	19	38		

Table 4.5: Indicates that there is an association between the effectiveness of nursing care on orthopedic clients with low back pain demographic variables such as food habits, type of work, other than these there is no association between the effectiveness of nursing care on orthopedic clients with low back pain demographic variables such as age in years, gender, religion, educational status, occupation, family income per month, weight of the client, , family history of low back pain, co-morbid illness, previous knowledge, source of information, Marital status, type of family, residential area, personal habit.

CHAPTER – V

RESULTS AND DISCUSSIONS

This chapter deals with the discussion which was based on the findings obtained from the statistical analysis and its relation to the objectives of the study, the conceptual frame work and the related literature.

The results of study had been discussed in relation to the effectiveness of nursing care on clients with low back pain; a total number of 50 patients had been selected for this study. The health condition of each patient was assessed and based on that nursing care was planned and implemented.

This study was used to assess the effectiveness of nursing interventions among clients with low back pain in Melmaruvathur Adhiparasakthi Institute of Medical Science and Research at Melmaruvathur. The following were the objectives of this study.

THE FIRST OBJECTIVE WAS TO ASSESS THE HEALTH STATUS OF CLIENTS WITH LOW BACK PAIN.

The assessment of health status of orthopedic clients with low back pain had been carried out in orthopedic wards of Melmaruvathur

Adhiparasakthi Institute Medical Science and Research at Melmaruvathur. The patients with low back pain, who met the inclusion criteria, were selected for the study. The patients were assessed with demographic variables and each patient was observed and rated by using self-structured rating scale. In assessment, most of the patients 41(82.0%) were in severe health condition, 9(18. 0%) were in moderate health condition.

THE SECOND OBJECTIVE WAS TO EVALUATE EFFECTIVENESS OF NURSING INTERVENTION ON CLIENTS WITH LOW BACK PAIN.

Each day, patients were treated on the basis of nursing interventions protocol. After the pre test and post test, the results were compared to determine the effectiveness of nursing intervention on clients with low back pain. The health status of clients were observed and assessed by using self-structured rating scale. The care was given in the following aspects like assessment of vital parameters, assessment of pain and its management, providing comfortable positions, extra comfort devices like air mattress, pillows, maintaining body mechanism and exercises, Personal hygiene, Self care activities, hot and cold application, dietary management, and health education which will improve health status of the client with low back pain.

H1 - There would be statistically significant improvement between pre test and post test score of clients with low back pain.

In this study the scholar had conducted the pre – experimental research design to improve the mobility clients and to prevent the disability. In 50 samples were selected in the average age group of 20-50 years and above the improvement of pre test score mean19.660, standard deviation 2.869, and the post test score is mean 39.960, standard deviation 4.398.the found that the improvement of health status had significantly better recovery at 7^{th} day of assessment. On comparing the pre test and post test score, there was significant improvement between the pre test and post test score. Therefore H1 is accepted.

THE THIRD OBJECTIVE WAS TO ASSOCIATE THE DEMOGRAPHIC VARIABLE WITH POST TEST SCORE.

In this study were conducted the health status assessment such as such as age in years, gender, religion, educational status, occupation, family income per month, weight of the client, food habits, family history of low back pain, type of work, co-morbid illness, previous knowledge, source of information, Marital status, type of family, residential area, and personal habits.

H2 - There would be statistically significant association between posts-test interventional score with selected demographic variables.

There was a significant association between the demographic variables like food habits, type of family, and post test score of clients with low back pain. Hence the H2 is accepted.

CHAPTER – VI

SUMMARY, CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS

This chapter deals with, the summary of the study, its findings, conclusion and the implications for nursing administration, nursing practice, nursing education and nursing research. This study has been started with a few limitations and ends with suggestions and recommendations for research in future.

SUMMARY

The management of low back pain and physical comfort is widely discussed in many settings including journals and innumerable studies in the medical and nursing literature. The topic is of great concern because of increasing complications.

The present study was conducted to find out the effectiveness of nursing intervention on clients with low back pain. A total of 50 clients with low back pain admitted in Melmaruvathur Adhiparasakthi Institute of Medical Science and Research who met the inclusion criteria were selected

from the inpatients unit of orthopedic ward by using the Non-Probability convenient sampling technique. An extensive review of literature, professional experience and expert's guidance lead the investigator to design the methodology

The investigator first introduced himself to the clients and developed a good rapport with them. The demographic variables, vital parameters and health status were assessed with self –structured rating scale. Then nursing measures had been given to clients with low back pain for seven day of hospital stay & post test was done.

Assessment out of 50 samples, most of clients had pain, and tenderness while majority of the clients were male, belong to the age group of 20-50 year and above.

A well planned nursing intervention were provided such as monitoring vital parameters, assessment of pain using visual analog pain intensity scale and its management like providing comfortable positions and extra comfort devices, hot and cold application, health education regarding dietary management, maintaining body mechanism and exercises, Personal hygiene, Self care activities and prevention of complications.

The investigator developed Conceptual framework selected for this study was from "Wiedenbach's helping art of clinical nursing theory" given

by Ernestine Wiedenbach. The research design adopted for the study was Pre experimental one group pre-test and post-test design was used to evaluate the effectiveness of nursing measures among clients with low back pain. This study was conducted in orthopedic ward in Melmaruvathur Adhiparasakthi Institute of Medical Science and Research at Melmaruvathur.

The population of the study includes all the clients with low back pain present in Melmaruvathur Adhiparasakthi Institute of Medical Science and Research at Melmaruvathur from which 50 samples were selected for the main study. Non-probability convenient sampling technique was used.

The content validity of the demographic variables, self structured rating scale was validated in consultation with guide and field of experts. The experts were nurse specialist, orthopedist, radiologist, and statistician. The tool was modified according to the suggestions and recommendations of the experts.

The main study was conducted in Melmaruvathur Adhiparasakthi Institute of Medical Science and Research at Melmaruvathur. The samples were selected by using Non-probability convenient sampling among those who fulfills the sampling criteria. Data were gathered through self structured rating scale. The data gathered are analyzed by descriptive and inferential

statistical method and interpretation is made on the basis of the objectives of the study.

A well planned nursing intervention are provided such as monitoring the vital parameters, pain management like, providing comfortable position, comfortable devices, administrating hot and cold application, fluid & electrolyte balance, skin care, active & passive exercise, back care, administration of medication, & health education regarding personal hygiene, early ambulation, maintenance of normal bowel & bladder elimination, exercise, dietary management, and rehabilitation.

In the end of the study the client showed improvement in health status were maintaining normal body temperature, nutritional status, and reduction in the level of intensity of pain, fluid & electrolyte balance, free from complications & improving the coping abilities of clients & family members.

CONCLUSION

In the pretest of 50 samples, 27(54.0%) of clients were male and 23(46.0%) clients were female. With the majority of low back pain occurred in age group 31-40 years.

In post test of nursing care, the clients were maintained the temperature, improvement of mobility and health status of the client,

improving the self-care activities, prevention of complications and reduce the intensity of pain.

There was statistically ($p<0.05$) significant improvement of mobility and reducing low back pain, prevention of complications like bed sore and disability, and remarkably maintained health status in relation to the effectiveness of nursing intervention among clients with low back pain.

NURSING IMPLICATIONS:

IMPLICATIONS FOR NURSING PRACTICE:

This study would provide good insight among the nurses to detect certain problems like pain, discomfort, tenderness, swelling, muscle spasm & full assessment, which would guide them to detect life support measures appropriately to prevent further complications & improvement of mobility and reduce the low back pain, in order to reduce the intensity of back pain and disability with low back pain clients. It also meets the challenges among nurses for growing autonomy in decision making to render priority based to the clients at a given moment

IMPLICATIONS FOR NURSING SERVICE

Nurse as an educator plays a major role in educating the students regarding the nursing interventions of clients with low back pain.

Nurses who are working in orthopedic–ward were expected to have through knowledge in reducing the disability, emerging management of back pain.

Nurse educator should provide opportunities to the students to gain knowledge & training in orthopedic nursing.

Nursing personnel should be given in service education to update their knowledge on dealing with orthopedic clients.

IMPLICATIONS FOR NURSING ADMINISTRATION

The nursing administration should manage the patient care and the delivery of specific nursing services within the health care agency. The nursing leaders in nursing care come forwarded to undertake health needs of the most vulnerable effects organizations and management.

The nursing administration should give attention on the proper selection, placement and effective utilization of the nurse in all areas within the available resources giving importance to their creativity, interest, ability in education of nurses to provide care to the clients.

Nurse administrator can develop evidence based practice care which will build a strong foundation for providing the care to clients.

IMPLICATIONS FOR NURSING RESEARCH

There is a need for intensive and extensive research in this area.

The study findings will reveal the current knowledge status about the low back pain and the extent to which the knowledge should be improved.

Nursing personnel need to the developed to study in specific areas of problem encountered by the clients with low back pain. This study directs the nursing personnel to boarder their horizon, knowledge, ability and skills to elicit problem and to conduct many more research to raise their power to implement prompt care activities.

The study will motivate other investigators to conduct future studies regarding the same topic

RECOMMEDATIONS

Based on the research findings the following recommendations can be made:

- Similar study can be conducted with large sample
- A study can undertaken to prevention of complication
- This study can be conducted to assess the effectiveness of planned teaching program
- This study can be conducted to management and prevention of selected complication related to orthopedic devices.

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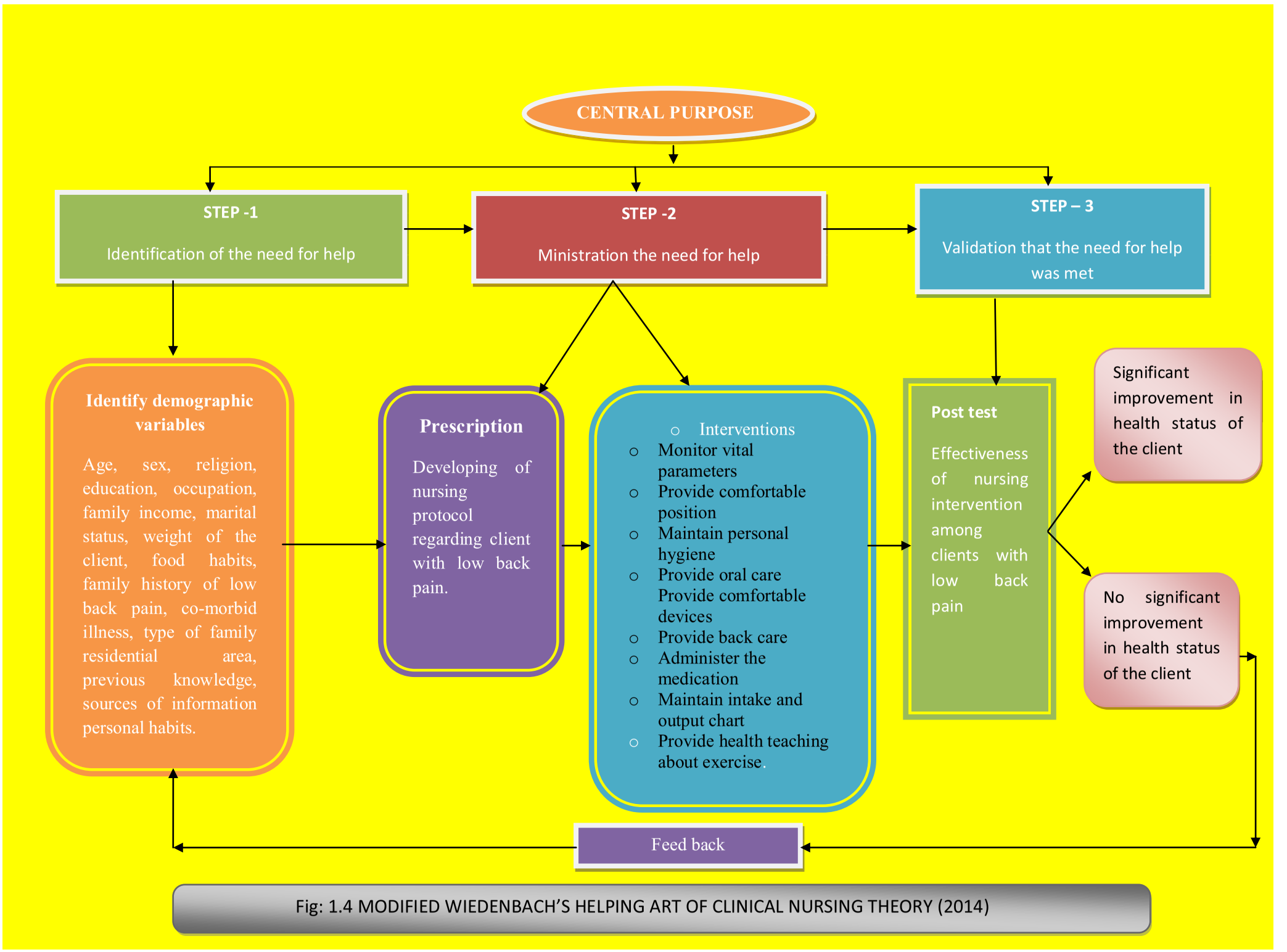


Fig: 1.4 MODIFIED WIEDENBACH'S HELPING ART OF CLINICAL NURSING THEORY (2014)

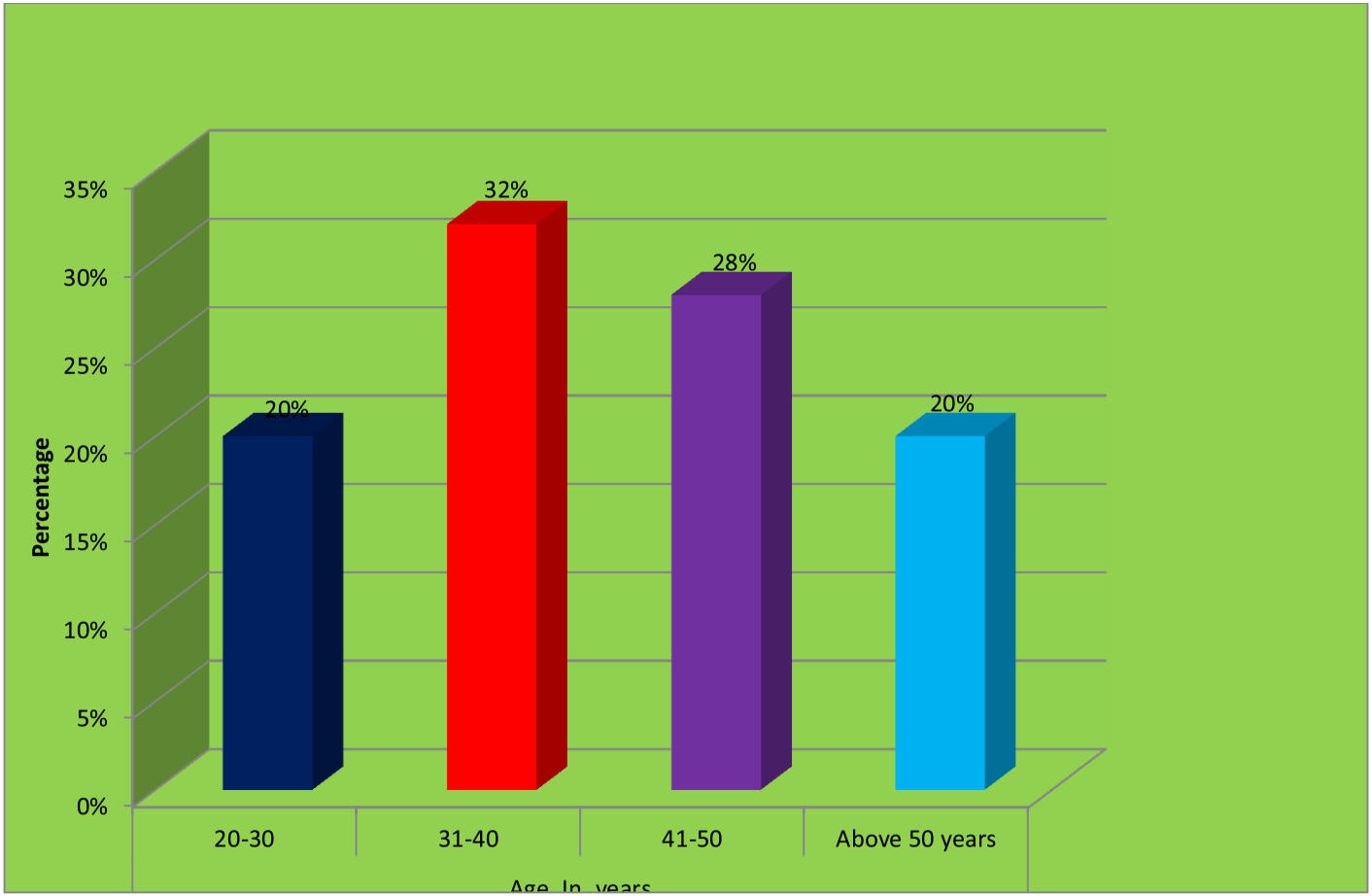


Fig 4.1 Percentage distribution of Demographic variable- age for low back pain

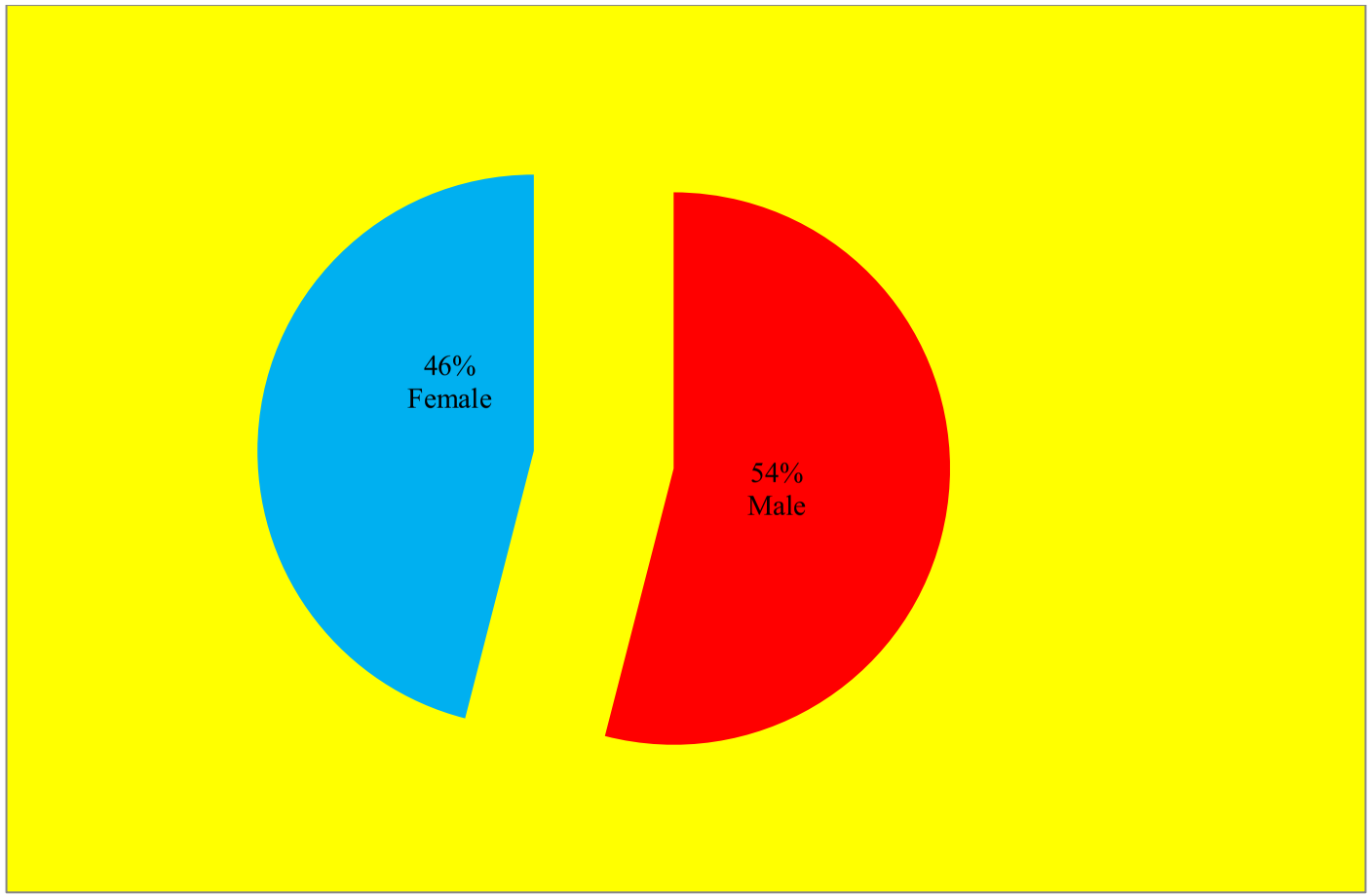


Fig 4.2 Percentage distribution of Demographic variable- gender for low back pain

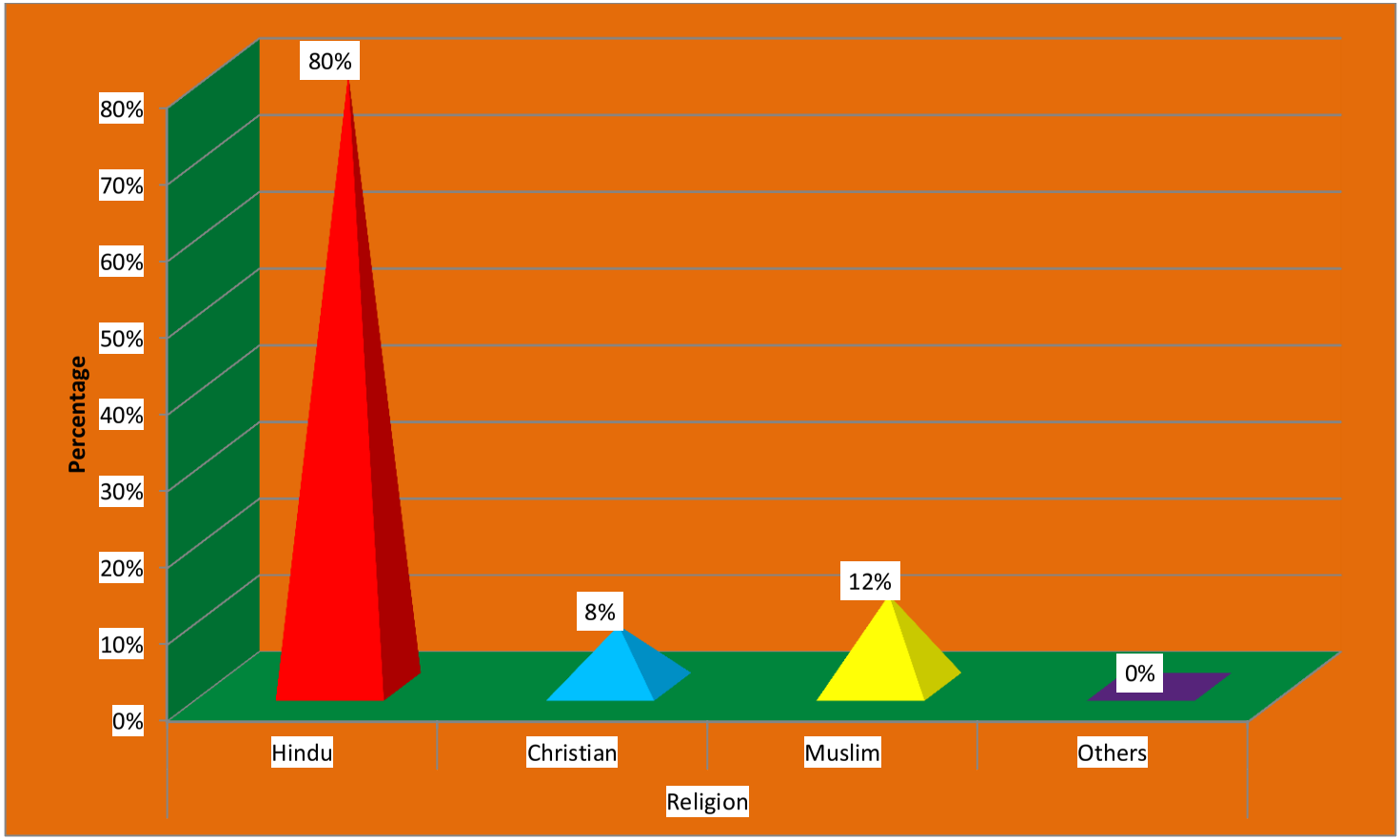


Fig. 4.3 Percentage distribution of Demographic variable- Religion for low back pain

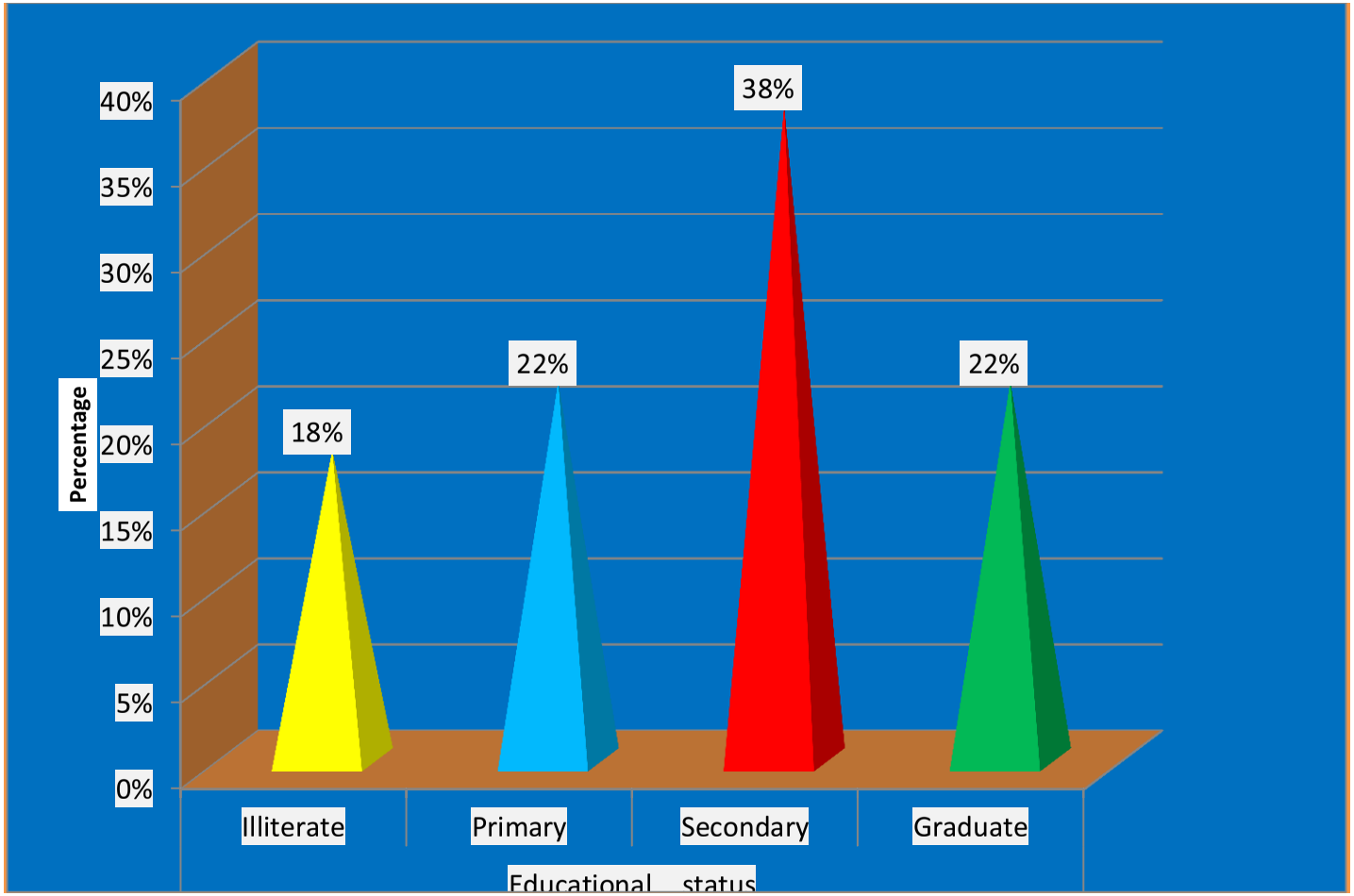


Fig. 4.4 Percentage distribution of Demographic variable- educational status for low back pain

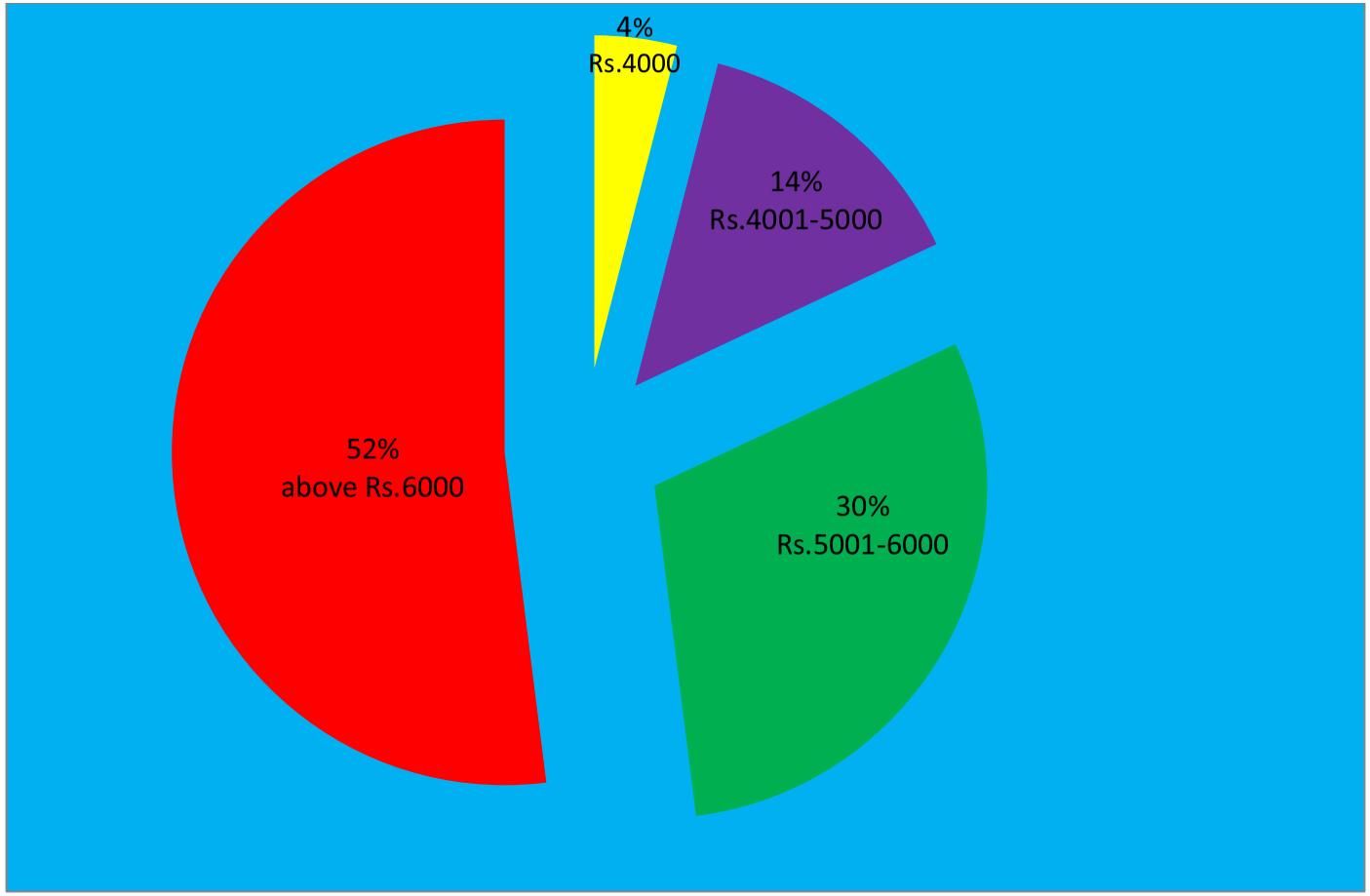


Fig. 4.5 Percentage distribution of Demographic variable- family income for low back pain

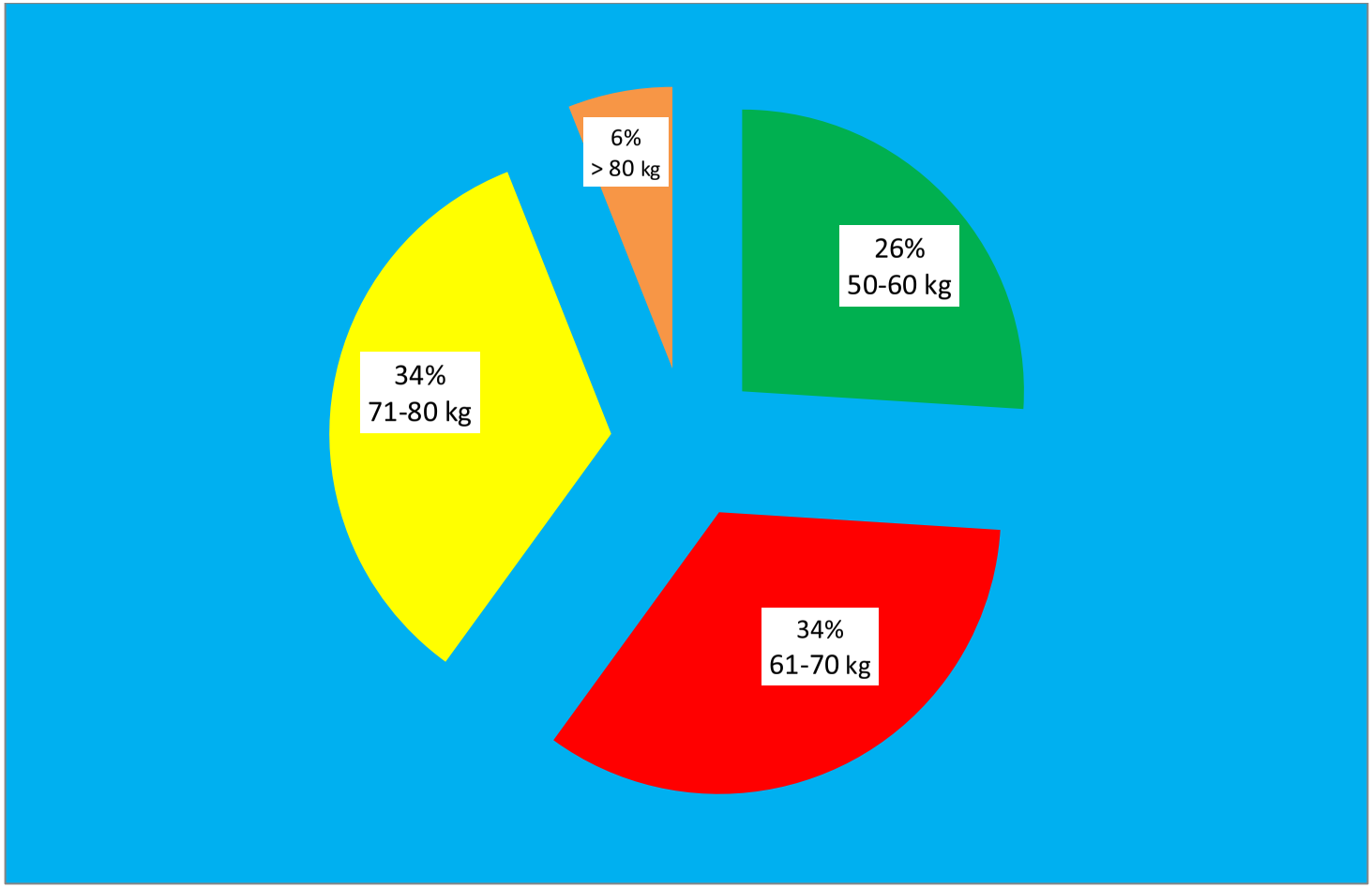


Fig. 4.6 Percentage distribution of Demographic variable-Weight of the client for low back pain

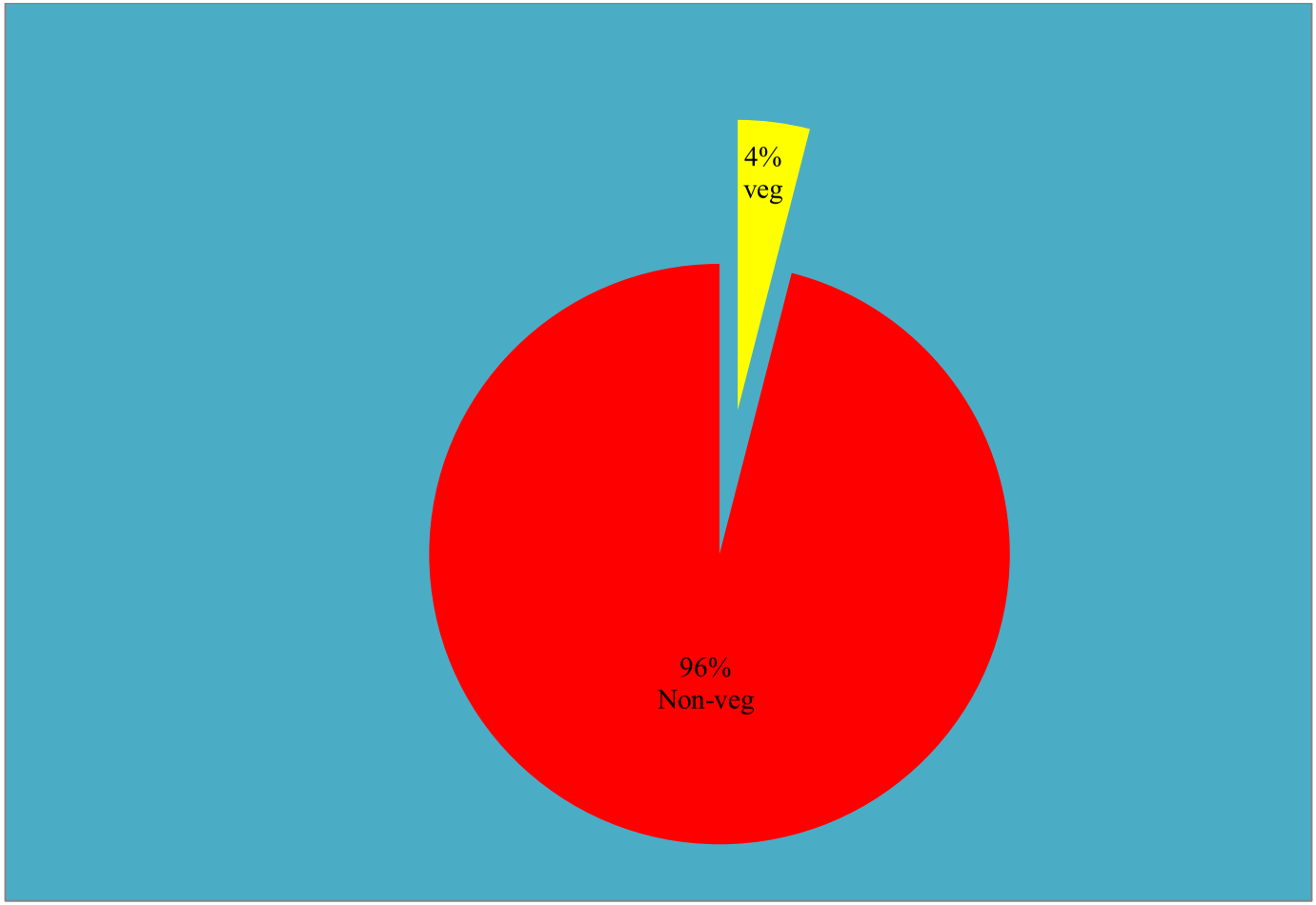


Fig. 4.7 Percentage distribution of Demographic variable-food habits for low back pain

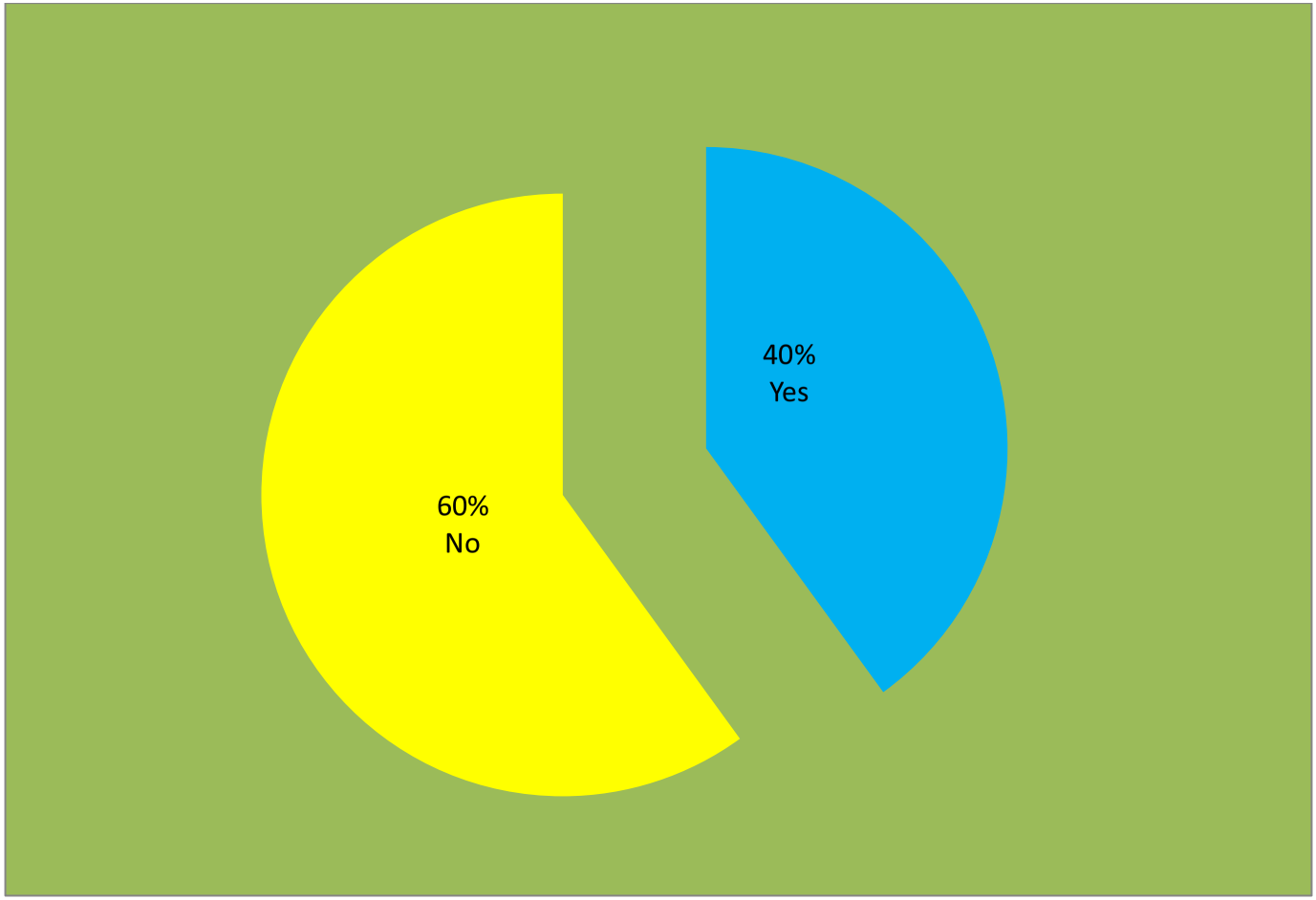


Fig. 4.8 Percentage distribution of Demographic variable- family history for low back pain

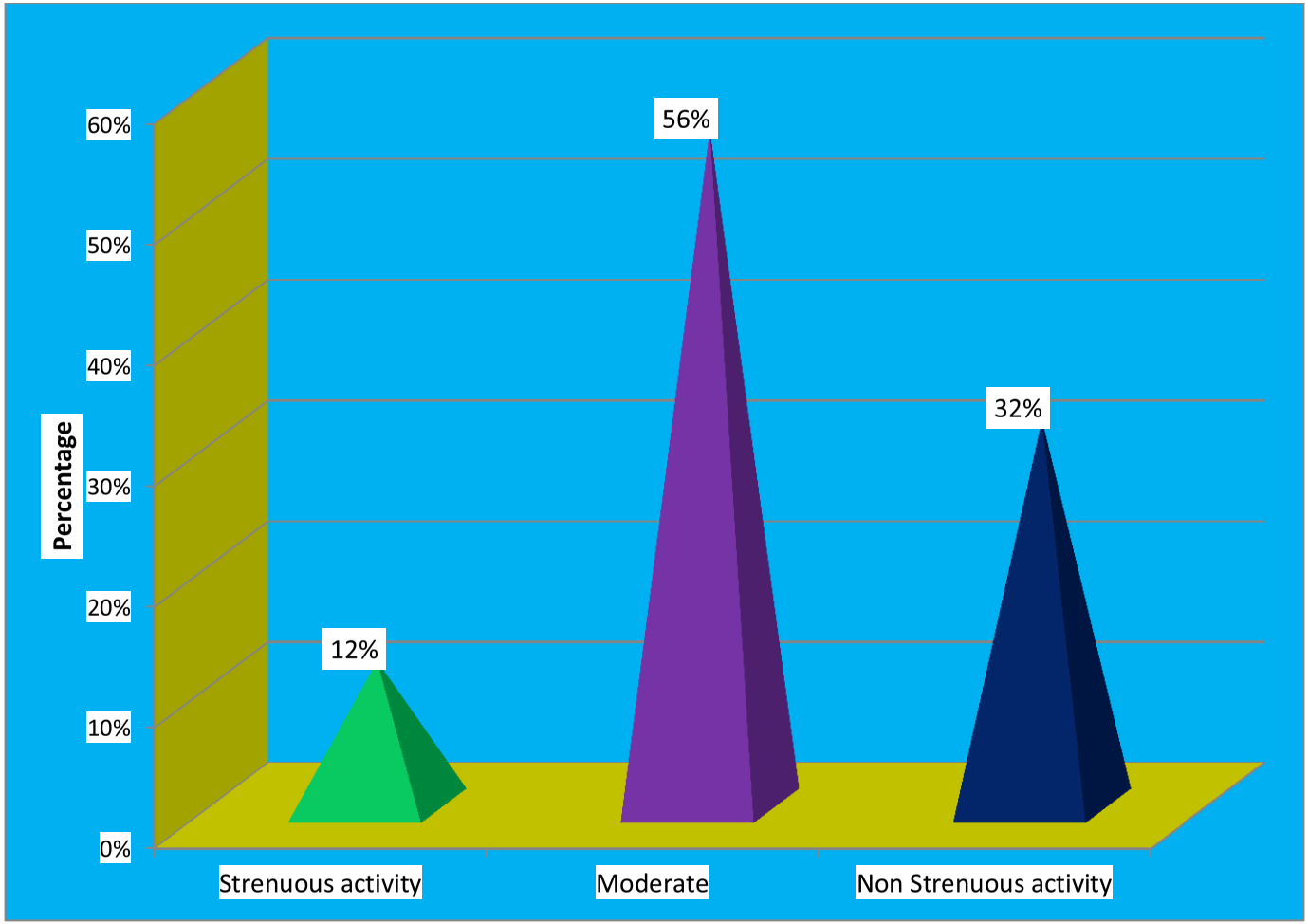


Fig. 4.9 Percentage distribution of Demographic variable- Type of work for low back pain

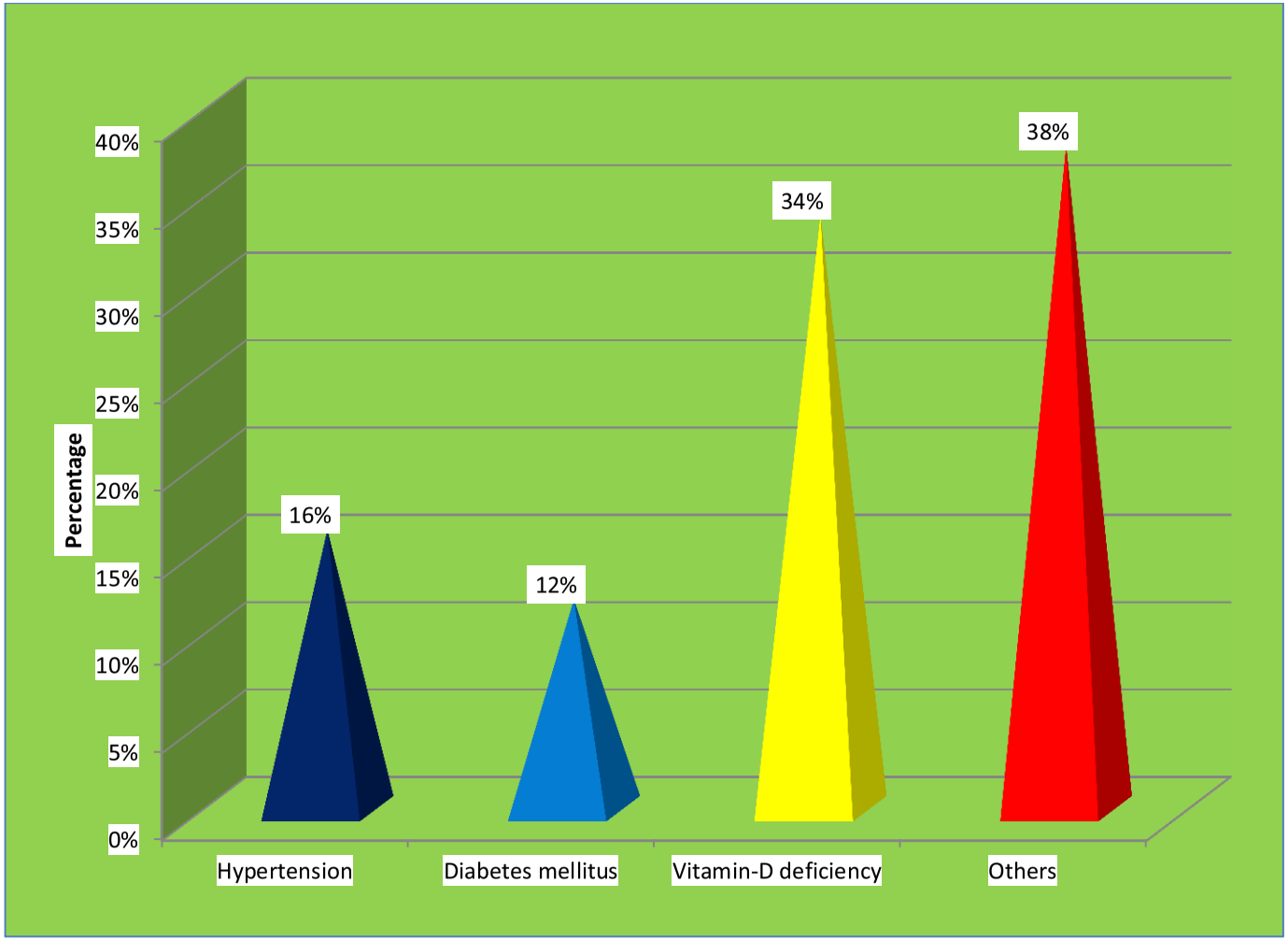


Fig. 4.10 Percentage distribution of Demographic variable- co morbid for low back pain

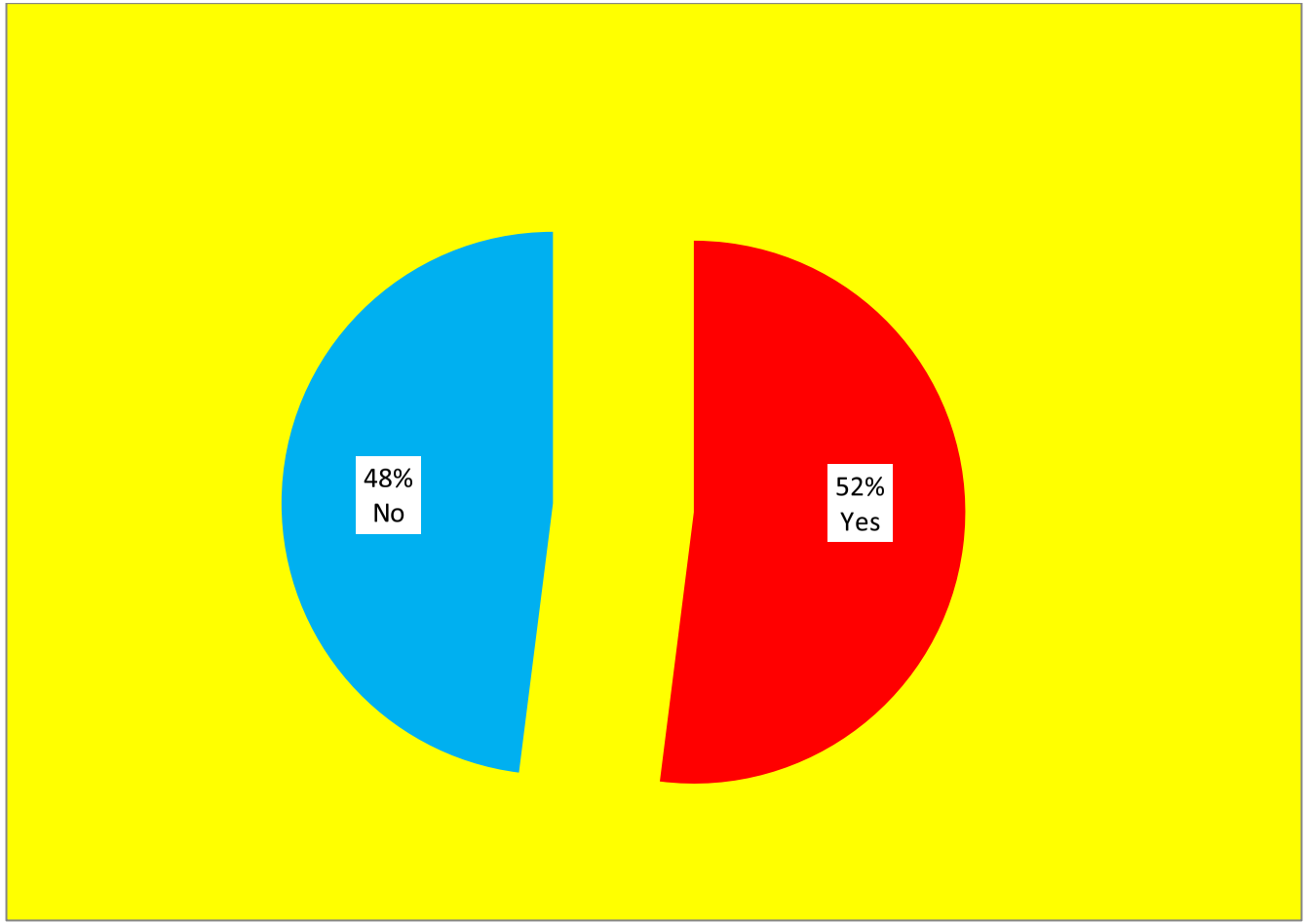


Fig. 4.11 Percentage distribution of Demographic variable- Previous knowledge for low back pain

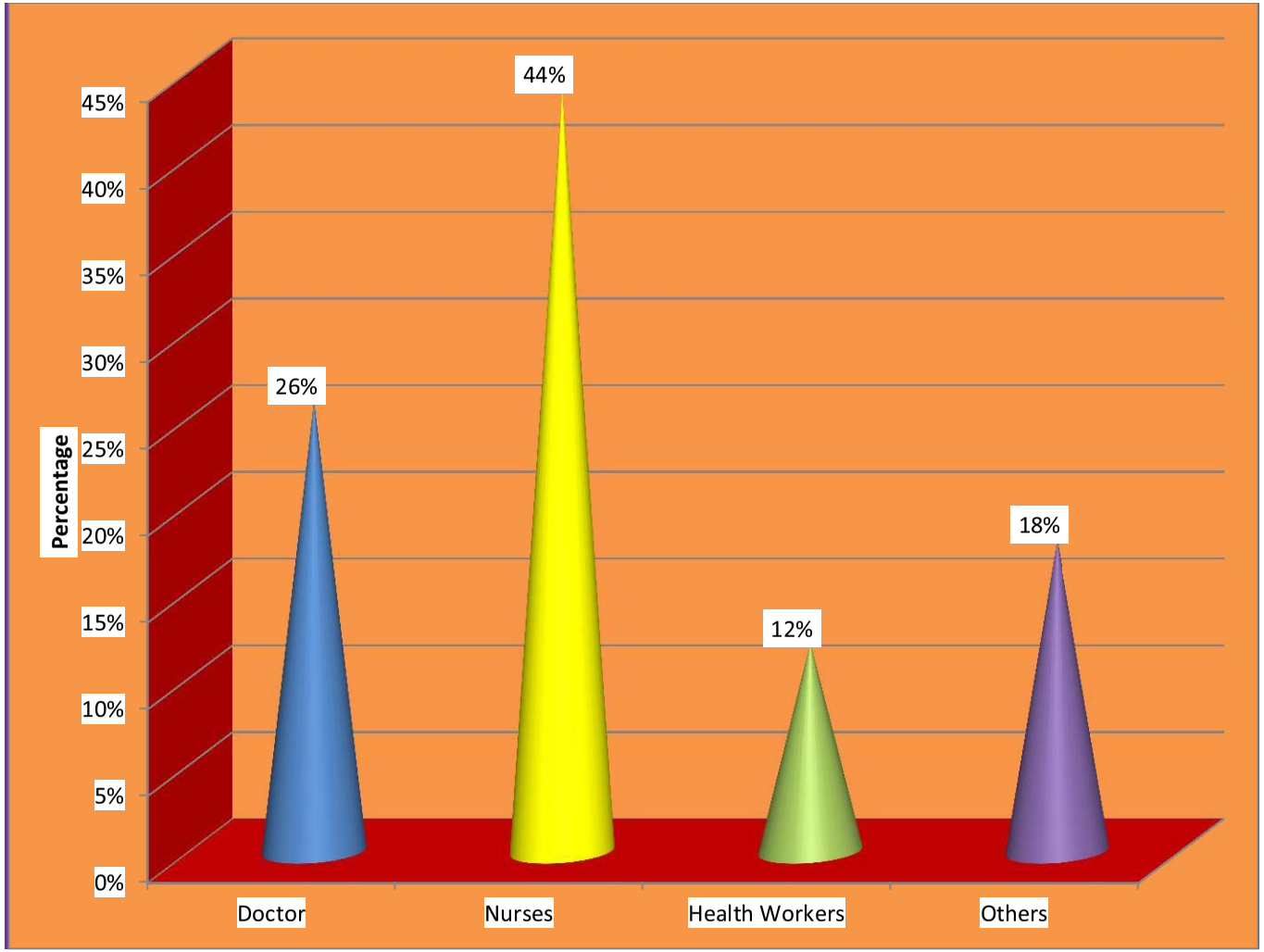


Fig. 4.12 Percentage distribution of Demographic variable- Sources of information for low back pain

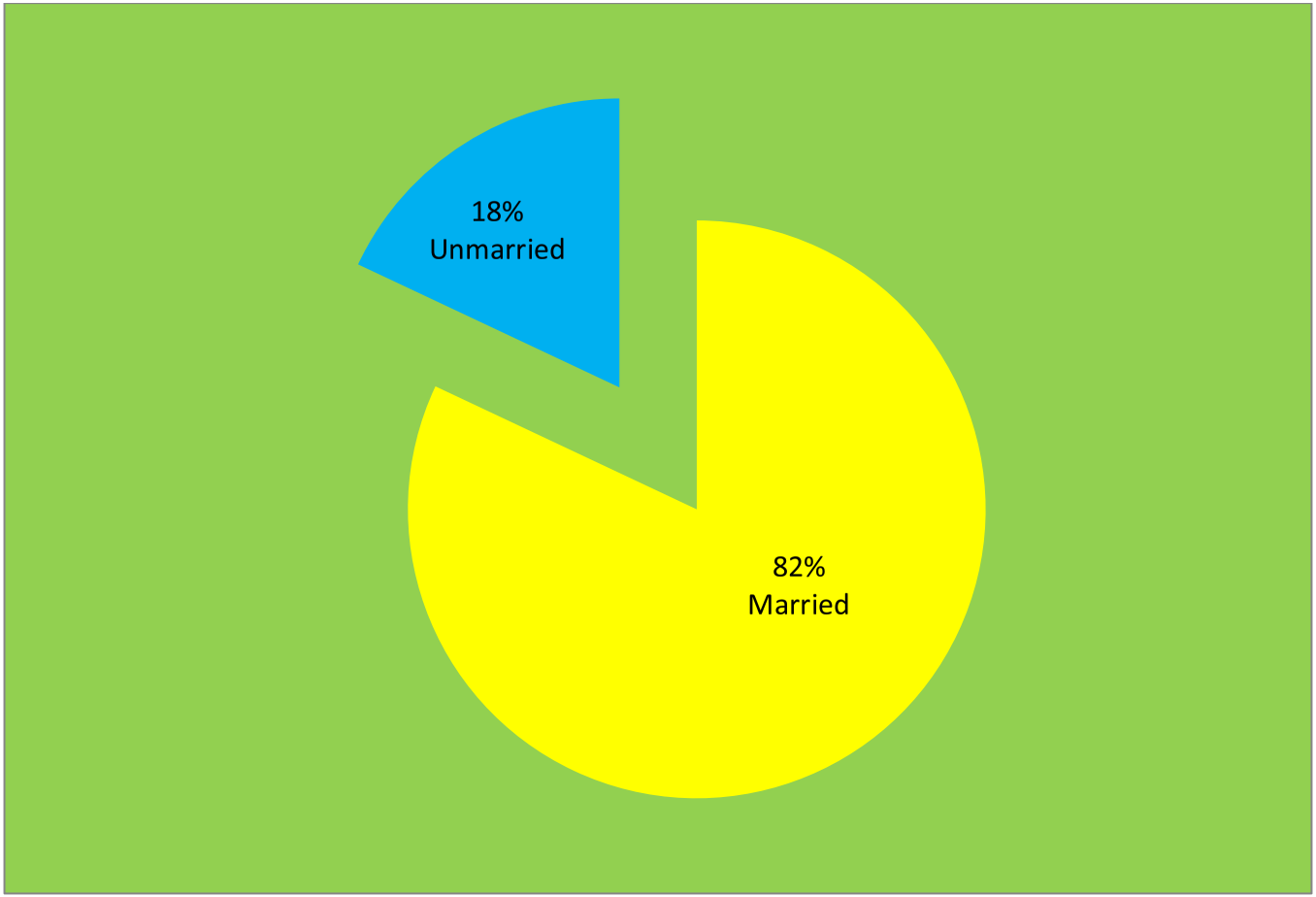


Fig. 4.13 Percentage distribution of Demographic variable-marital status for low back pain 61m

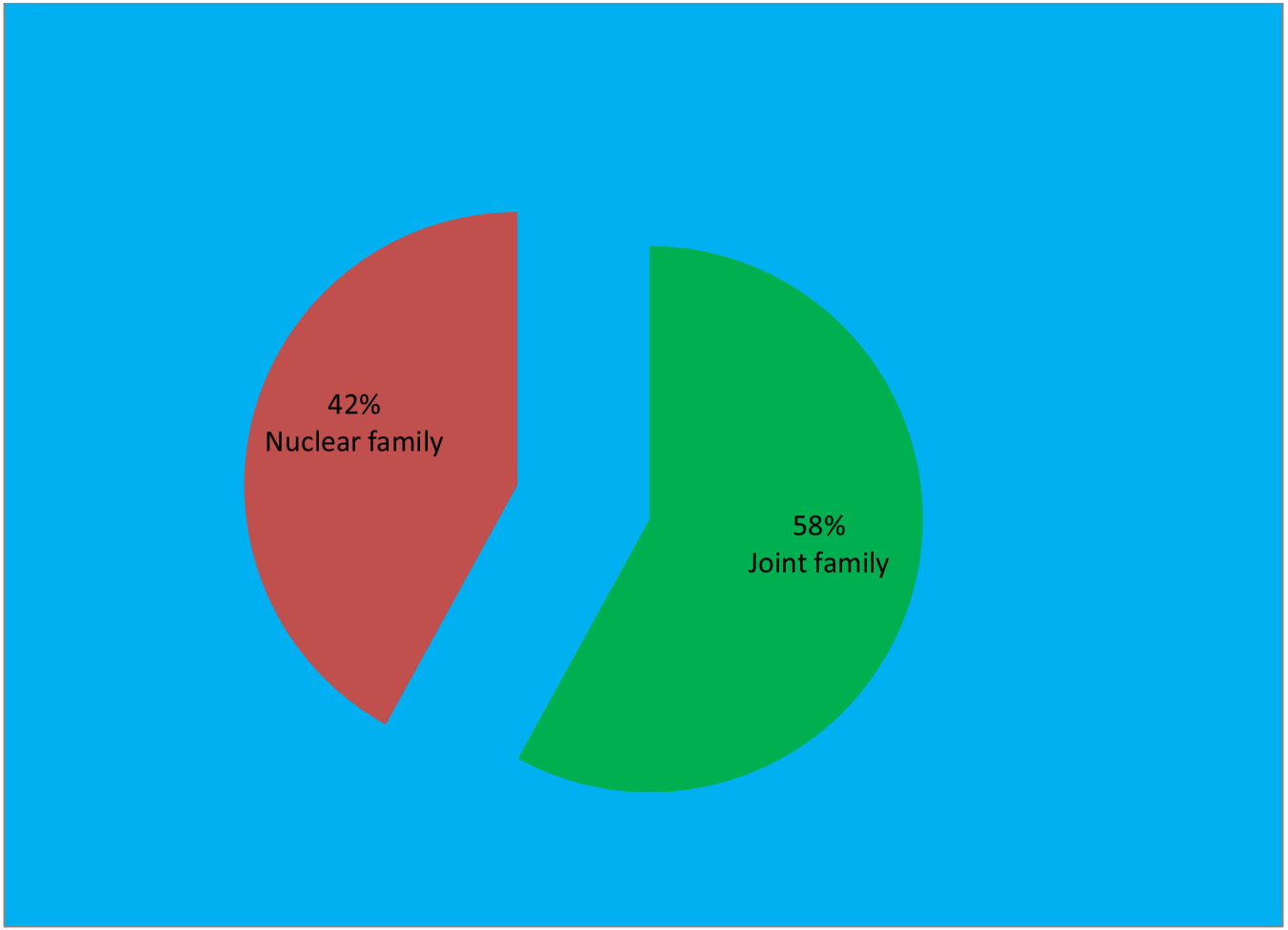


Fig. 4.14 Percentage distribution of Demographic variable- Type of family for low back pain

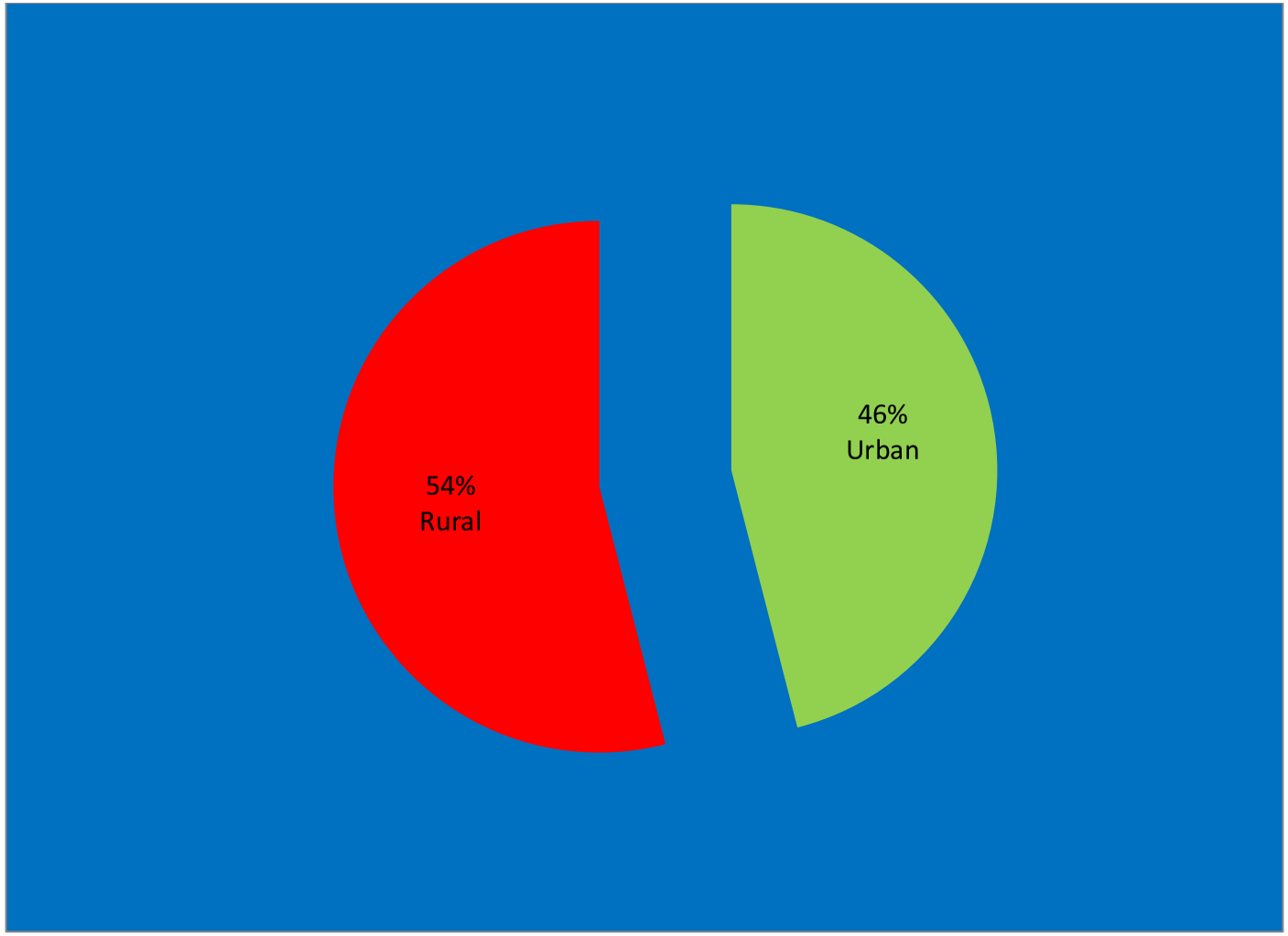


Fig. 4.15 Percentage distribution of Demographic variable- Residential area for low back pain

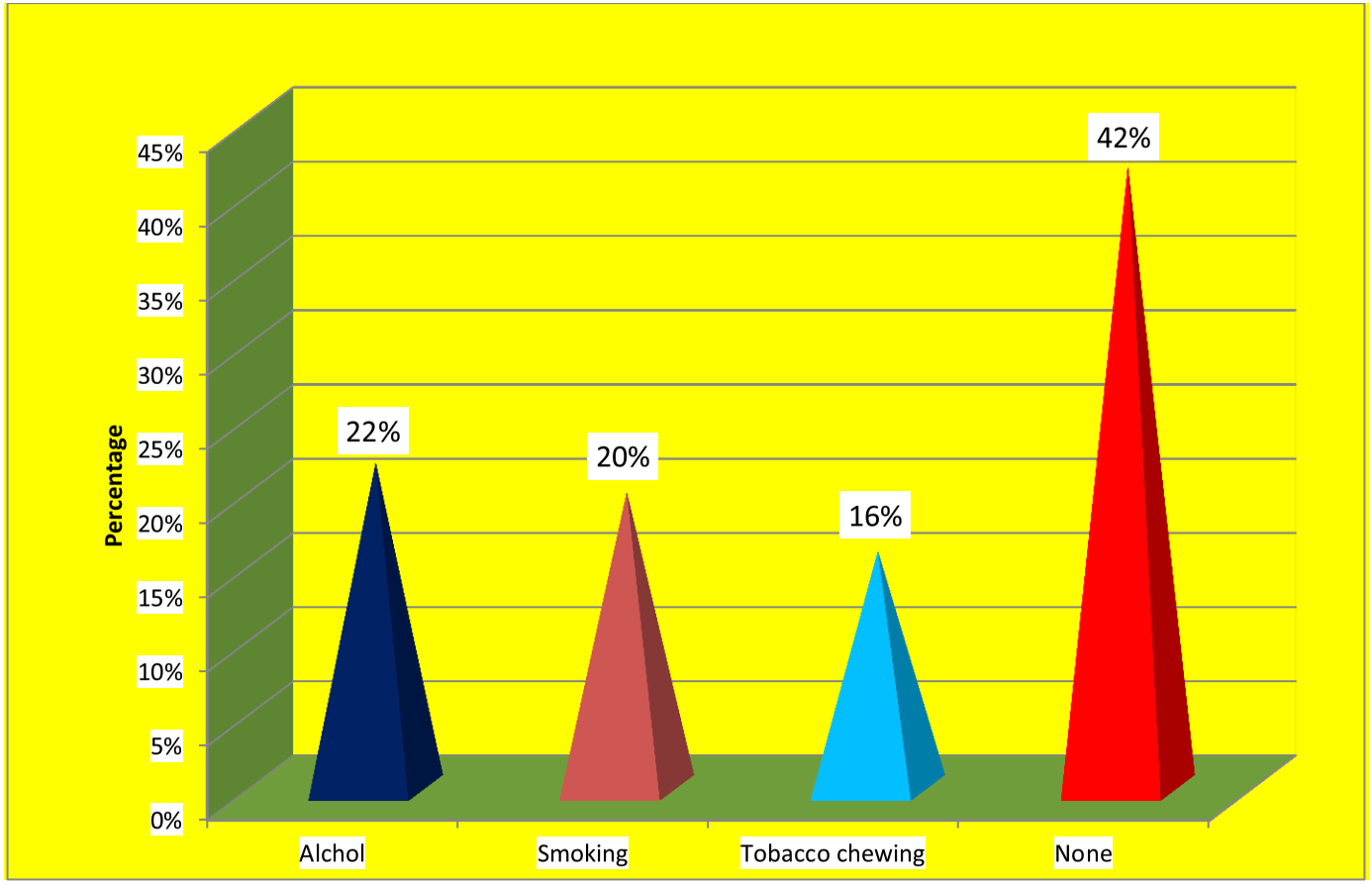


Fig. 4.16 Percentage distribution of Demographic variable- personal habits for low back pain

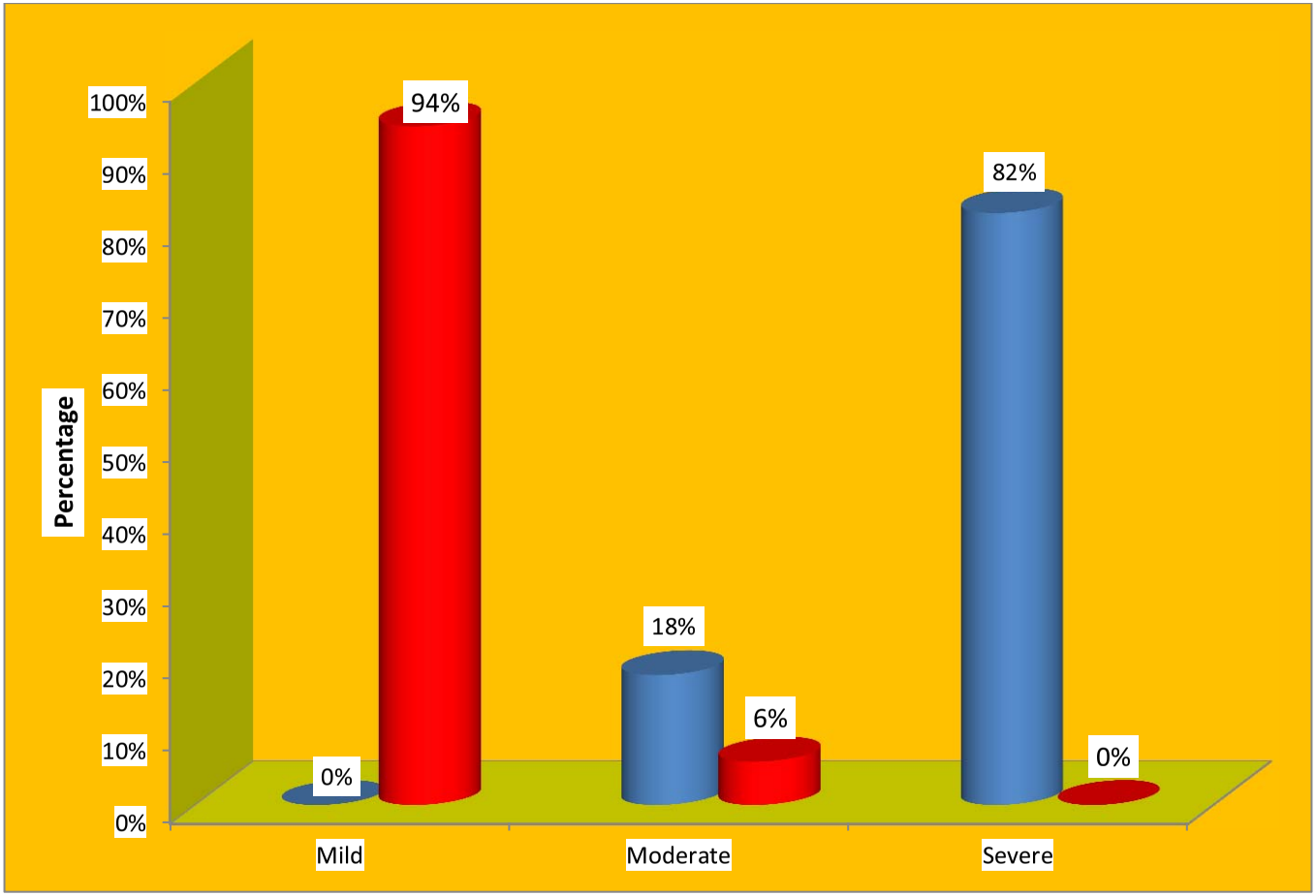


Fig. 4.17 Comparison of pre test and post test of nursing intervention for low back pain

APPENDICES

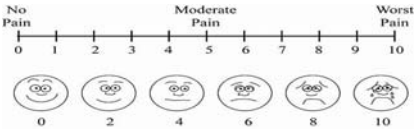
APPENDIX – I
DEMOGRAPHIC VARIABLES

S.NO	DEMOGRAPHIC VARIABLES	
1	Age in years	( )
	a)20-30years	
	b) 31-40 years	
	c)41 - 50 years	
	d)51-60 years and above	
2.	Gender	( )
	a)Male	
	b)Female	
3.	Religion	( )
	a)Hindu	
	b)Christian	
	c)Muslim	
	d)other	
4.	Educational status	( )
	a)Illiterate	
	b)Primary education	
	c) Secondary education	
	d)Graduate	
5.	Occupation	( )
	a)Unemployed	
	b)Coolie	
	c)Business	
	d)Professional	
6.	Family income per month	( )
	a)Rs3001 -4000	
	b)Rs4001 -5000	
	c)Rs5001 -6000	
	d)Above 6001	
7.	Weight of the client	( )
	a)50- 60kg	
	b)61-70kg	
	c)71-80kg	
	d)81-90kg	
8.	Food Habits	( )
	a)Vegetarian	
	b)Non-vegetarian	

9. Family history of low back pain ( )
   a)Yes
   b)No
10. Type of work ( )
   a)Strenuous activity
   b)Moderate work
   c)Non-strenuous activity
11. Co-morbid illness ( )
   a)Hypertension
   b)Diabetes mellitus
   c)Vitamin-D deficiency
   d)Others
12 Previous knowledge regarding low back pain ( )
   a)yes
   b)No
13 Source of information ( )
   a)Doctor
   b) Nurses
   c)Health workers
   d) Others
14 Marital status ( )
   a)Married
   b)Unmarried
15 Type of family ( )
   a)Joint family
   b)Nuclear family
16 Residential area ( )
   a)Urban
   b)Rural
17 Personal habits ( )
   a)Alcohol drinking
   b)Cigarette smoking
   c)Tobacco chewing
   d)None

APPENDIX – II

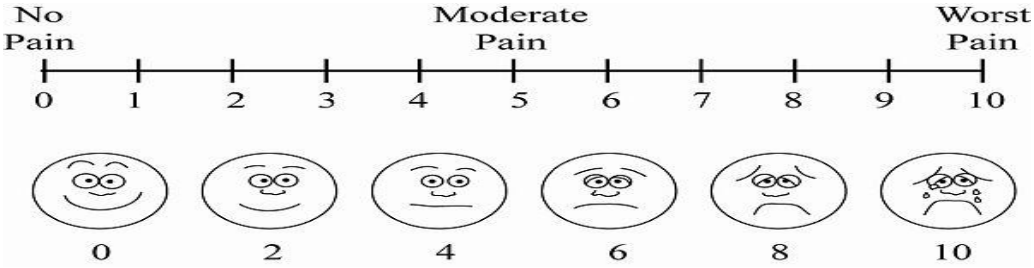
SELF STRUCTURED RATING SCALE ON CLIENT WITH LOW BACK PAIN

S.No	CRITERIA	SCORE	DAYS						
			1	2	3	4	5	6	7
1.	Temperature a) Normal b) Hypothermia c) Hyperthermia	 3 2 1							
2.	Pulse a) Normal b) Bradycardia c) Tachycardia	 3 2 1							
3.	Respiration a) Normal b) Bradypnoea c) Tachypnoe	 3 2 1							
4.	Blood pressure a) Normal b) Hypotension c) Hypertension	 3 2 1							
5.	Pain  a) Mild b) Moderate c) Severe	 3 2 1							
6.	Gait a) Walk straight b) Walk bended c) Slow walk	 3 2 1							
7.	Range of motion a) Normal b) Restricted c) Not possible	 3 2 1							

8	Skin texture a) Normal b) Poor c) Very poor	 3 2 1							
9	Redness a) Rarely b) Frequently c) Always	 3 2 1							
10	Tenderness a) Mild b) Moderated c) Sever	 3 2 1							
11	Work tolerance a) Possible b) Rarely possible c) Impossible	 3 2 1							
12	Stiffness a) Rarely b) Frequent c) Always	 3 2 1							
13	Sleep pattern a) Normal b) Decreased c) Insomnia	 3 2 1							
14	Presence of fatigue a) Rarely b) Decreased c) Always	 3 2 1							
15	Activity of daily living a) Mild disturbed b) Moderately disturbed c) severely disturbed	 3 2 1							

APPENDIX – III

VISUAL ANALOGUE PAIN INTENSITY SCALE (SIMPLE DESCRIPTIVE PAIN INTENSITY SCALE)



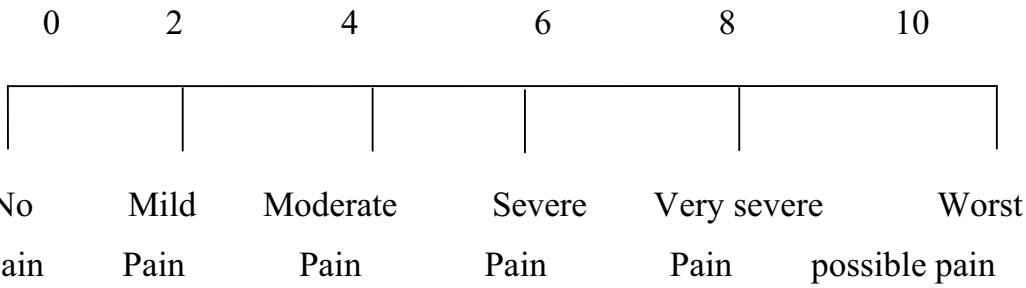
Instruction to the interviewer

There is a relating to assessing the back pain undergone coronary angiography. The investigator is observing each response carefully and ticks one appropriate answer that the researcher observed.

It is standardized scale used to assess the pain perception. It has 6 levels.

Code No:

Name:



Scoring procedure

Based on the percentage of scores the level of pain scores the level of pain was graded in 6 categories. They are “Mild pain”, “Moderate pain”, “Severe pain” and “Worst possible pain”.

Level of pain	**Actual Score**	**Percentage**
No Pain	0	0%
Mild Pain	2	20%
Moderate Pain	4	40%
Severe Pain	6	60%
Very Severe Pain	8	80%
Worst Possible Pain	10	100%

APPENDIX-IV

MOBILITY SCALE

TASK	
Lying to sitting	2-independent 1-Needs help of 1 person o- needs help of 2+ person
Sitting to lying	2-independent 1-needs help of 1 person o- needs help of 2+ person
Sitting to standing	3- independent in under 3 seconds 2- independent in over 2 seconds 1-needs help of 1 person o- needs help of 2+ person
Standing	3-stands without support & able to reach 2-stands without support but needs support to reach 1-stands but needs support 0-stands only in physical support of another person
Gait	3-independent(+/- stick) 2-independent with frame 1-mobile with walking aid but unsafe 0-needs physical help to walk /constant person
Time walk	3-under 15 seconds 2-16-30 seconds 1-over 30 seconds 0-unable to cover 6 months
Functional reach	4-over 20 cm 2-10-20 cm 0-under 10 cm

SCORES:

SCORES UNDER 10: generally these clients are **dependent** in mobility maneuver require help with basic activity of daily living such as transfer, toileting & dressing

SCORES BETWEEN 10-13: **borderline** interms of safe mobility & independent in activity of daily living

SCORES OVER 14**: independent** in basic activity of daily living

APPENDIX-V

NURSING PROTOCOL FOR CLIENTS WITH LOW BACK PAIN

S.NO	NURSING PROTOCOL	RATIONALE
1.	Monitor vital parameters ➢ Temperature ➢ Pulse ➢ Respiration ➢ Blood pressure	Provides the baseline data to detect abnormal changes to find out the deterioration in health status.
2.	Pain management ➢ Assess pain for location , duration , severity ➢ Support the lumbar region with extra pillow. ➢ Administer hot and cold application ➢ Administer analgesics as prescribed	Assess pain to provide appropriate pain measures Help to minimize the pain and promotes comfort Helps to relieve pain
3.	Increased physical mobility ➢ Support the low back by using lumbar belt. ➢ Increase activity as tolerated	Improve the daily activities Helps to gradually increase strength Develops strength in all extremities

	➢ Teach and assist in exercise program include resistive strengthening exercise	Helps to increase mobility
4.	Comfort measures like extra comfort devices, pillows, air bag Cushions etc.	Promotes comfort and prevents bed sore
5.	Maintain proper position ➢ Provide comfortable position ➢ Change position second hourly	Promotes comfort level To prevent bedsore
6.	Exercise ➢ Range of motion exercise	To promote and regain normal
7.	Maintain body posture and alignment: ➢ Provide comfortable bed without wrinkles	mobility
8.	Proper position ➢ Every second hourly change the position	Reduce the risk of skin breakdown from prolonged pressure

9.	Maintain skin integrity: ➢ Instruct the client pressure relieving devices to be use of air matters	Prevents getting injured
	➢ Cut the nail short & keep it clean	Prevents infections & promote comfort
10.	Promote self-care activities ➢ Perform and assist in self-care activities	Enhance good prognosis and better lifestyle & confidence
11.	Administer medication as prescribed	To alleviate the clients symptoms
12	Meeting hygienic measures: ➢ Assisting the client in carrying out daily activity	To enable the clients to perform his/her self-care activities
	➢ Assisting the client to meet the Elimination needs	
	➢ Assisting the client to maintain clean and tidy appearance	Prevents infection and promotes comfort
13.	Health education ➢ Regular exercise program	Enhances prognosis, increases self-esteem and confidence.

	➢ Regarding comfortable position and comfort devices ➢ Preventions from complication ➢ Regarding physiotherapy and its advantages ➢ Regular follow up	

APPENDICES - VI

OBSERVATIONAL CHECK LIST OF NURSING INTERVENTIONS

S.NO	CRITERIA	YES	NO
1.	Monitor vital parameters		
2.	Provide comfortable position		
3.	Maintain personal hygiene		
4.	Provide oral care		
5.	Provide comfortable devices		
6.	Provide back care		
7.	Administer the medication		
8.	Maintain intake and output chart		
9.	Provide health teaching about exercise		

APPENDIX – VII

NURSING DIAGNOSIS

1. Acute low back pain related to diseased process as evidenced by verbalization of the client.
2. Activity intolerance related to low back pain as evidenced by tiredness.
3. Impaired physical mobility related to decreased muscle strength, pain and stiffness as evidenced by inability to move.
4. Impaired skin integrity related to prolonged bed rest secondary to low back pain as evidenced by complaints of itching over the skin.
5. Imbalanced nutritional less than body requirements related to anorexia as evidenced by less intake of food, weight loss.
6. Sleep pattern disturbance (insomnia) related to acute pain & hospitalization as evidenced by restlessness.
7. Constipation related to inactivity secondary to low back pain as evidenced by abdominal distension.
8. Self care deficit related to low back pain as evidenced by inability to move the part.
9. Knowledge deficit related to treatment regimen & follow up care.

APPENDIX-VIII

CASE ANALYSIS

SAMPLE NO: 1

AGE: 45 YEARS

GENDER: MALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self-structured rating scale and nursing interventions were started. On the day of assessment the score was 24 and on the day of evaluation was38. The clients was given with pain relieving measures, comfortable position, range of motion exercises, quadriceps setting exercises, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client's health status and mobility was improved and intensity of low back pain was reduced to some extent.

SAMPLE NO: 2

AGE: 32 YEARS

GENDER: MALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 26 and on the day was evaluation was 41. The client given with pain relieving measures, comfortable position, range of motion exercise, early ambulation , skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced to some extent.

SAMPLE NO: 3

AGE: 37 YEARS

GENDER: FEMALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 24 and on the day was evaluation was 41. The client was given with pain relieving measures, comfortable position, and range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced to some extent.

SAMPLE NO: 4

AGE: 40 YEARS

GENDER: MALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 27 and on the day was evaluation was 39. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced to some extent.

SAMPLE NO: 5

AGE: 36 YEARS

GENDER: MALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 25 and on the day was evaluation was 44. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 6

AGE: 50 YEARS

GENDER: FEMALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 28 and on the day was evaluation was 41. The client was given with pain relieving measures, comfortable position, and range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 7

AGE: 51 YEARS

GENDER: MALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 27 and on the day was evaluation was 42. The client was given with pain relieving measures, comfortable position, and range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced to some extent.

SAMPLE NO: 8

AGE: 46 YEARS

GENDER: MALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 29 and on the day was evaluation was 43. The client was given with pain relieving measures, comfortable position, and range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 9

AGE: 60 YEARS

GENDER: MALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 28 and on the day was evaluation was 44. The client was given with pain relieving measures, comfortable position, and range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced to some extent.

SAMPLE NO: 10

AGE: 50 YEARS

GENDER: MALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 25 and on the day was evaluation was 42. The client was given with pain relieving measures, comfortable position, and range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 11

AGE: 74 YEARS

GENDER: MALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 23 and on the day was evaluation was 43. The client was given with pain relieving measures, comfortable position, and range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced to some extent due to the aged factor.

SAMPLE NO: 12

AGE: 57 YEARS

GENDER: MALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 25 and on the day was evaluation was 44. The client was given with pain relieving measures, comfortable position, and range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 13

AGE: 26 YEARS

GENDER: FEMALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 28 and on the day was evaluation was 40. The client was given with pain relieving measures, comfortable position, and range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 14

AGE: 50 YEARS

GENDER: MALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 30 and on the day was evaluation was 43. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 15

AGE: 38 YEARS

GENDER: FEMALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 23 and on the day was evaluation was 40. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 16

AGE: 30 YEARS

GENDER: FEMALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 23 and on the day was evaluation was 42. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 17

AGE: 33 YEARS

GENDER: FEMALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 25 and on the day was evaluation was 43. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 18

AGE: 72 YEARS

GENDER: MALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 23 and on the day was evaluation was 40. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced to some extent due to the age factor.

SAMPLE NO: 19

AGE: 31 YEARS

GENDER: FEMALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 25 and on the day was evaluation was 41. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 20

AGE: 32 YEARS

GENDER: FEMALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 26 and on the day was evaluation was 42. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 21

AGE: 23 YEARS

GENDER: MALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 25 and on the day was evaluation was 44. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 22

AGE: 32 YEARS

GENDER: FEMALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 26 and on the day was evaluation was 40. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 23

AGE: 23 YEARS

GENDER: MALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 25 and on the day was evaluation was 44. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 24

AGE: 60 YEARS

GENDER: FEMALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 29 and on the day was evaluation was 40. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client s health status and mobility was improved and intensity of low back pain was reduced to some extent.

SAMPLE NO: 25

AGE: 30 YEARS

GENDER: FEMALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 27 and on the day was evaluation was 41. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 26

AGE: 50 YEARS

GENDER: MALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 26 and on the day was evaluation was 41. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 27

AGE: 62 YEARS

GENDER: FEMALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 25 and on the day was evaluation was 42. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced to some extent.

SAMPLE NO: 28

AGE: 43 YEARS

GENDER: MALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 27 and on the day was evaluation was 43. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 29

AGE: 31 YEARS

GENDER: MALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 26 and on the day was evaluation was 42. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 30

AGE: 27 YEARS

GENDER: FEMALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 28 and on the day was evaluation was 44. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 31

AGE: 27 YEARS

GENDER: MALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self-structured rating scale and nursing interventions were started. On the day of assessment the score was 26 and on the day of evaluation were 41. The clients was given with pain relieving measures, comfortable position, range of motion exercises, quadriceps setting exercises, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s' health status and mobility was improved and intensity of low back pain was reduced.

SAMPLE NO: 32

AGE: 25 YEARS

GENDER: FEMALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 28 and on the day was evaluation was 40. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 33

AGE: 23 YEARS

GENDER: MALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 25 and on the day was evaluation was 41. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 34

AGE: 48 YEARS

GENDER: MALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 28 and on the day was evaluation was 43. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 35

AGE: 37 YEARS

GENDER: FEMALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 26 and on the day was evaluation was 41. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 36

AGE: 43 YEARS

GENDER: MALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 25 and on the day was evaluation was 39. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 37

AGE: 56 YEARS

GENDER: FEMALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 29 and on the day was evaluation was 43. The client given with pain relieving measures, comfortable position, range of motion exercise, early ambulation , skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client's health status and mobility was improved and intensity of low back pain was reduced to some extent.

SAMPLE NO: 38

AGE: 50 YEARS

GENDER: FEMALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 28 and on the day was evaluation was 39. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced to some extent.

SAMPLE NO: 39

AGE: 62 YEARS

GENDER: FEMALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 25 and on the day was evaluation was 40. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced to some extent.

SAMPLE NO: 40

AGE: 43 YEARS

GENDER: MALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 27 and on the day was evaluation was 43. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 41

AGE: 32 YEARS

GENDER: MALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 25 and on the day was evaluation was 40. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 42

AGE: 46 YEARS

GENDER: MALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 26 and on the day was evaluation was 42. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 43

AGE: 58 YEARS

GENDER: FEMALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 27 and on the day was evaluation was 40. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced to some extent.

SAMPLE NO: 44

AGE: 38 YEARS

GENDER: FEMALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 26 and on the day was evaluation was 39. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 45

AGE: 27 YEARS

GENDER: FEMALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 23 and on the day was evaluation was 40. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 46

AGE: 38 YEARS

GENDER: MALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 25 and on the day was evaluation was 41. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 47

AGE: 45 YEARS

GENDER: MALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 24 and on the day was evaluation was 39. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 48

AGE: 32 YEARS

GENDER: MALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 25 and on the day was evaluation was 40. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 49

AGE: 28 YEARS

GENDER: MALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 29 and on the day was evaluation was 39. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

SAMPLE NO: 50

AGE: 48 YEARS

GENDER: MALE

The client was admitted in orthopedic ward, all investigations were done. Vital signs were assessed and recorded. Initial assessment was done with the self structured rating scale and nursing interventions were started. On the assessment day the score was 26 and on the day was evaluation was 42. The client was given with pain relieving measures, comfortable position, range of motion exercise, early ambulation, skin care, maintained bowel and bladder pattern and prevention of bedsores. The health education and counseling was provided. The client`s health status and mobility was improved and intensity of low back pain was reduced

ASSESSMENT	NURSING DIAGNOSIS	GOAL	PLANNING	IMPLEMENTATION	RATIONALE	EVALUATION
SUBJECTIVE DATA: The client complaints of pain in low back **OBJECTIVE DATA:** The client looks dull and has severe pain in 8/10 continuously in low back restlessness and increased pulse rate.	Low back pain related to diseased process as evidenced by verbalization of the client	The client's pain will be minimized	Assess the level of pain. Provide comfortable position Provide diversional therapy Administer hot and cold application Administer analgesics or muscle relaxant as per order	Assessed the pain status with the use of visual analog pan intensity scale 8/10.severe pain with continuously on surgical site Provided comfortable supine position, with extra pillows under lumbar region. Provide diversional therapy like reading books Administered hot and cold application Administered analgesics (e.g. Inj. Voveran, 75mg, b.d)	Help to assess the level of pain Helps to minimize the pain Helps to minimize the pain Help to relive the pain Helps to relieve pain and promote muscle relaxation	The client's got relief from pain

ASSESSMENT	NURSING DIAGNOSIS	GOAL	PLANNING	IMPLEMENTATION	RATIONALE	EVALUATION
SUBJECTIVE DATA: The clients' complaints of inability to move the extremities. **OBJECTIVE DATA:** The clients have decreased muscle strength and tiredness.	Impaired physical mobility related to decreased muscle strength, pain and stiffness as evidenced by inability to move	The clients will maintain normal physical mobility.	Instruct and assist in position changes and transfers. Teach and assist in exercise program Instruct and supervise safe use of ambulatory aids Co-operate with physical therapist in muscle strengthening program Every 2 hours changing the position.	Assisted in position changes and assistive devices can help increase mobility Assisted in gluteal setting exercise programme. Instructed and supervised ambulatory aids. (Walker, wheelchair). Co-operated with physical therapist Changed the position	To prevent the complication Develop strength in all extremities. Prevents injury from unsafe use and prevent falls. Helps to maximize clients progress in rehabilitation To prevent the pressure sore and improve the mobility	The client was maintained normal physical mobility

ASSESSMENT	NURSING DIAGNOSIS	GOAL	PLANNING	IMPLEMENTATION	RATIONALE	EVALUATION
SUBJECTIVE DATA: The clients complaints of pain and warmth over the skin **OBJECTIVE DATA:** The clients' gestures show pain during mobilization, warmth over the low back area.	Impaired skin integrity related to prolonged bed rest secondary to low back pain as evidenced by complaints of itching over the skin	The client skin integrity will improve	Encourage client to support the low back area while mobilizing Teach about the low back exercise and turning in the bed Provide pain relief measures to the clients Instruct the complications of the prolonged bed rest Watch for signs of deep vein thrombosis and pulmonary embolism	Assisted client to the low back area while mobilizing Taught about the low back exercise and turning in the bed Provided pain relief measures to the clients Instructed the complications of prolonged bed rest Watched for signs of deep vein thrombosis and pulmonary embolism	It helps to minimize the pain during mobilization It helps to improves tolerance to mobilize It helps to reduce the pain It helps to promote awareness and co-operation It helps to prevent the complication	The client skin integrity was improved

ASSESSMENT	NURSING DIAGNOSIS	GOAL	PLANNING	IMPLEMENTATION	RATIONALE	EVALUATION
SUBJECTIVE DATA: The clients complaints of loss of appetite OBJECTIVE DATA: The client looks reduced body weight fatigue, and vomiting	Imbalanced nutrition less than body requirement related to anorexia secondary to pain as evidenced by less intake of food, weight loss	The clients nutritional status will improve	Assess the nutritional status of the client Provide small and frequent interval diet Provide rich diet in proteins and vitamin-c Provide food according to like and dislike of client. Provide high fiber diet	The client has poor nourished. Monitored body weight and intake output chart Provided small and frequent interval diet Provided diet rich in proteins and vitamin –c Provided the food according to like and dislike of (milk, egg, vegetable soup) Provided higher fiber diet	It helps to know the nutritional status of the client It improves the appetite It improves the nutritional status of the client. It improves the nutritional status It improve the bowel motility	The clients normal nutritional status was maintained

ASSESSMENT	NURSING DIAGNOSIS	GOAL	PLANNING	IMPLEMENTATION	RATIONALE	EVALUATION
SUBJECTIVE DATA: The clients' complaints that I can't get sleep properly and I feel restlessness **OBJECTIVE DATA**: The clients looks anxious, pain, tired ,dull, and tired	Sleep pattern disturbance insomnia related to acute pain and hospitalization as evidenced by restlessness	The client sleep pattern will improve	Provide relaxation technique like meditation and worm water bath Plan physical exercise during the day Provide calm and quite environment Administer drugs as per order Provide psychological support to reduce anxiety and fear	Provided relaxation technique Planned physical exercise Provided calm and quite environment Administered drugs as per order (e.g. Inj. Voveran, 75mg, b.d) Provided psychological support like reading books, and listening to music.	It helps to improve sleeping pattern Activity increases the need for sleep Improve sleeping pattern It helps to reduce insomnia It helps to improve sleep	The client sleep pattern was attain normal

ASSESSMENT	NURSING DIAGNOSIS	GOAL	PLANNING	IMPLEMENTATION	RATIONALE	EVALUATION
SUBJECTIVE DATA: The clients complaints of difficult to pass the stool for past 2 days **OBJECTIVE DATA:** On examination the clients having abdominal tightness, acute pain and decreased bowel sounds.	Constipation related to immobility as evidenced by abdominal distension	The clients bowel pattern will improve	Monitor diet pattern, its type and amount Auscultate bowel sounds Advice to take fiber rich diet Advice to take 3000ml of fluid per day Teach about active and passive exercise Provide privacy and adequate time for defecation	Monitored diet pattern, its type and amount Auscultated bowel sounds Advised the client to take beans, green leafy vegetables Advised to take 3000ml of fluid per day Taught about active and passive exercise Provided privacy and adequate time for defecation	It enhance further planning It detect paralytic illness It helps to improve the client condition It softening the stool It promotes peristalsis It enhances complete emptying of bowel	The client was passed the stool

ASSESSMENT	NURSING DIAGNOSIS	GOAL	PLANNING	IMPLEMENTATION	RATIONALE	EVALUATION
SUBJECTIVE DATA: The clients complaints of pain and not able to perform daily activities **OBJECTIVE DATA**: The clients look tired, weak and anxious	Self care deficit related to activity restriction and surgery as evidenced by discomfort.	The clients self activity will improve	Encourage the client to self care activities Encourage active exercise Assist with clients activities within limit Provides high nutritive diet as prescribed Encouraging resuming daily activities within normal limit monitor basic care	Assisted self care activities like bathing, eating Encouraged active exercise Assisted with clients activities within limit Provided high nutritive diet as prescribed Encouraged resuming daily activities	It improving sense of well being It promotes self care It helps to improve confidence It provides needed to energy It promotes self care	The client satisfied with self care activity measures.

ASSESSMENT	NURSING DIAGNOSIS	GOAL	PLANNING	IMPLEMENTATION	RATIONALE	EVALUATION
SUBJECTIVE DATA: The clients repeatedly asking questions. **OBJECTIVE DATA**: The clients looks fear and anxious and ask the questions about follow up care.	Knowledge deficit related to treatment regiment and follow up care	The client knowledge level will improve	Teach about importance of taking regular medications Encourage active exercise Teach about treatment regimen and follow up care Teach about dietary intake Instruct about regular follow up.	Taught about importance of taking regular medications Encouraged active exercise Teach about treatment regimen and follow up care Taught about dietary intake Instructed about regular follow up	It helps to reduce the pain & complications It helps to enhances muscle strength It helps to promote awareness and co-operation It helps to enhance nutritional status It helps to promotes recovery process	The client knowledge level was improved

CERTIFICATE FOR CONTENT VALIDITY

This is to certify that the tool developed by **Mr. ASIF MUSHTABA. S.,** M.Sc. (N) II year, Medical Surgical Nursing, Adhiparasakthi College of Nursing, Melmaruvathur, has been undergoing **"A STUDY TO ASSESS THE EFFECTIVENESS OF NURSING INTERVENTIONS AMONG CLIENTS WITH LOW BACK PAIN IN MAPIMS AT MELMARUVATHUR"** has been validated by the undersigned and may be allowed to proceed with this tool to conduct the main study.

Place: Coimbatore.

Date:

M.D.A

Signature

(M.D. ANURATHA)

Asso. Prof.

PSG College of Nsg.

Coimbatore.

PSG COLLEGE OF NURSING * Peelamedu * COIMBATORE-4

SCHOLAR COLLECTING DATA

SCHOLAR IS MONITORING BLOOD PRESSURE

SCHOLAR ASSISTING IN AMBULATION

CERTIFICATE FOR CONTENT VALIDITY

This is to certify that the tool developed by **Mr. ASIF MUSHTABA. S.,** M.Sc. (N) II year, Medical Surgical Nursing, Adhiparasakthi College of Nursing, Melmaruvathur, has been undergoing **"A STUDY TO ASSESS THE EFFECTIVENESS OF NURSING INTERVENTIONS AMONG CLIENTS WITH LOW BACK PAIN IN MAPIMS AT MELMARUVATHUR"** has been validated by the undersigned and may be allowed to proceed with this tool to conduct the main study

Place: Coimbatore.

Date:

PSG COLLEGE OF NURSING Peelamedu COIMBATORE-4

M.D.A

Signature

(M.D. ANURATHA)
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Coimbatore.